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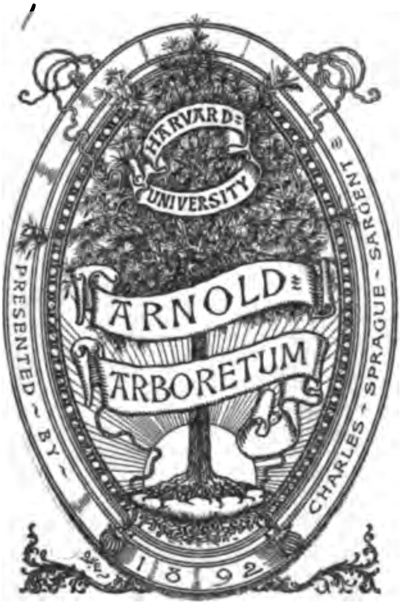
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BOTANICAL SERIES

VOLUME I.

CHICAGO, U. S. A.
1895–1902.*

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* For date of issue of each paper see Table of Contents.

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ERRATA.

A number of errors appear in the three Contributions to the Flora of Yucatan as published. These will be corrected in full in Vol. III of this series, which will be devoted to a descriptive Flora of Yucatan.

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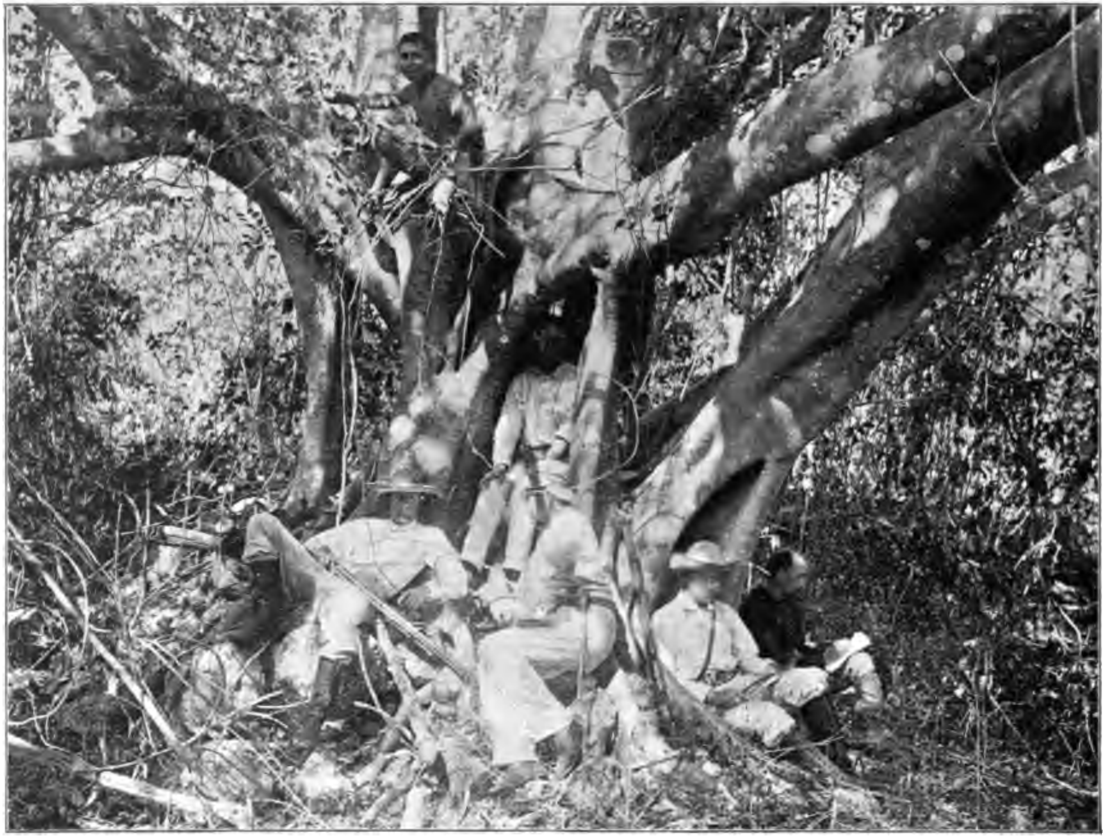

FICUS RUBIGINOSA?

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CONTRIBUTION

TO THE

FLORA OF YUCATAN

BY

CHARLES FREDERICK MILLSPAUGH,

Curator, Department of Botany.

CHICAGO, U. S. A.

August, 1895.

Contribution to the Flora of Yucatan.

The peninsula of Yucatan forms the southeastern extremity of Mexico, and constitutes its two Confederate States of Yucatan in the east and Campeche in the west. It projects as a compact rectangular mass between the waters of the Gulf of Mexico on the north and those of the Caribbean Sea on the south, and is separated from the Island of Cuba on the east by the narrow channel of Yucatan, through which pours the current of the Gulf Stream, after being heated in the cauldron of the southern portion of the Gulf. The coast line of the peninsula, about 700 miles in extent, presents a uniform, monotonous aspect of an almost continuous line of low sand dunes, which enclose at nearly all points broad lagoons, ranging in depth of water according to the season. The peninsula has a mean breadth of about 200 miles, and a total area of 55,400 square miles, being about the size of the State of Illinois,

The entire eastern portion of the country is, geologically speaking, of recent formation, having been built up in shallow water by polypi, in the form of a low level plateau of porous limestone, having only sufficient soil caught in its uneven surface to support a dense but dwarfish vegetation.

From Cape Catoche, its most northeasterly projection, southward along the coast, extend the great Blanquilla reefs, among which are scattered many small islands of coralline rock and clear coral sand. The principal of these are Cankun, Holbox, Cantoy and Mugeres; all lie near the coast, and their formation is apparently too recent to create much soil except the sand of the disintegrated reef rock. About half way down the coast, and ten miles from it in the channel, there is, however, a larger and older island, Cozumel, which is doubtless a special formation, being considerably higher and older than any of the others. This island has a soil similar to, if not the same as, that of the mainland, and its vegetation is less of the sand-littoral than that of the others. Cozumel is about twenty-five miles long, its highest point being nearly one hundred feet above the sea. In speaking of the flora, Professor Hemsley says in the supplement to

Vol. IV, of Godman and Salvin's *Biologia Centrali-Americana*: "Taking the present data, the flora of Cozumel is probably more West Indian than continental American in character; for, although the number of species, excluding doubtful ones common to Cozumel and the Continent, but not found in the West Indies, is somewhat larger than the number of West Indian species found in Cozumel, but not on the mainland, those of the latter category are of a more distinct type than those of the former." This may prove true, yet an element enters into the collection upon which Professor Hemsley based his observation of which he had no knowledge; the collector, Dr. Gaumer, a resident of the mainland, collected on Cozumel only such species as he had not observed on the Peninsula.

This section of Mexico is, in the main, excessively dry, there being no elevations sufficiently high to intercept the moisture-bearing clouds from the Atlantic, while those from the Pacific are shut out by the Sierra Madre range; rainfall is deficient, especially in the northern and southern districts. The heat is also great here, and almost continuous through the year. A good idea of the climate is given in the following letter recently received from Dr. Gaumer: "March is one of our dryest months, quite hot but very healthy; many of the forest trees are then in bloom, though nearly leafless; for hunting wild animals and birds it is, however, the best month in the year. January and February are not so hot and have more flowers, while April and May are much hotter and the flowers are fewer still. In October, November and December, flowers are very abundant and the weather cool. June is by far the most delightful month of all the year; Nature, clad in the splendor of her fresh green attire, is everywhere bedecked with beautiful flowers, among which flit myriads of bright-hued butterflies and brilliant plumaged birds; rains are frequent, however, and form the only drawback to collecting. July, August and September are unsafe months for foreigners to visit this region, although there is no danger if they come in January and remain through this period."

Although the upper and main portion of Mexico has been for years a favorite collecting ground for botanists, Yucatan has, strangely enough, received but little attention, and so little is known of its flora that Drude in his *Handbuch der Pflanzengeographie*, says nothing whatever of the region, though the work was published in 1890. Grisebach, who is best equipped concerning the flora of the neighboring Gulf islands, simply states in his *Vegetation der Erde* (1884) that the conditions of the region prevent luxuriance of vegetable growth, and Hemsley in his report on the botany of Mexico and Central America prepared for the *Biologia* quoted above, indicates the paucity of knowledge concerning the plant life of the peninsula in the following words: "We may add that little is known of the details of the botany of Yucatan, except that it is very poor and scanty, and largely composed of plants that still bear long droughts without injury. The poverty of the flora is ascribed to the fact that the copious rains rapidly filter away through the porous limestone substratum." All this renders the botany of the country of still greater interest, and its development of the greatest. It is, therefore, for this reason that the Museum has decided to put a collector at work in the field and accumulate full knowledge of its flora. In order, therefore, that our work may be as complete as possible, we have carefully compiled in this first contribution all that we could find published concerning previous collections.

The history of previous work toward a knowledge of this region is that of fragmentary collections, no collector having so far done any exhaustive collecting in the field.

In 1835, Jean Jules Linden, a Belgian horticulturist, gathered about twenty-five species of plants in Yucatan while on his way to Vera Cruz. This constitutes the first known collection from this part of Mexico.

In 1848, Hon. E. P. Johnson collected about seventy-five species, which he sent to Dr. Torrey with the label "Yucatan and Tabasco." Some doubt is therefore felt as to the purely Yucatan specimens in the gathering.

In 1885 and 1886, Dr. George F. Gaumer, while collecting in ornithology for the British Museum, gathered on the islands of the east coast, the inflorescence and a few leaves of by far the largest number of plants that have come out of the country, 224 species. These, together with the two collections mentioned above, were worked over by Prof. Hemsley for the *Biologia*, and comprise all that is known of the insular flora of Yucatan.

The collection which forms the basis of this contribution was made last January, during an expedition to the ruined city of Chichen Itza, and the Islands of Mugeres and Cozumel, and is again incomplete and fragmentary, on account of the excessive dryness of the season, and the rapidity of movement of the party. The expedition was generously planned and carried forward by Mr. Allison V. Armour of Chicago, and as it was conducted in his steam yacht it gave an opportunity of visiting the islands, that would otherwise have been unattainable.

In the following list, the species in black face type are those collected or observed by myself, the balance, in the body type, have been carefully compiled from the pages of the *Biologia Centrali-*

Americana, as previously noted. The arrangement of the natural orders is that of Engler and Prantl in *Die Naturlichen Pflanzenfamilien,* as far as published, otherwise that of Bentham and Hooker's *Genera Plantarum.* The nomenclature is in accordance with the "Rochester rules" as far as our reference facilities would permit.

The determination of the species was made by the author in the Herbarium of the Shaw Botanical Gardens at St. Louis, through the courtesy of the Director, Prof. Wm. Trelease, with the exception of a few which were kindly compared in the Gray Herbarium, Harvard, by Prof. B. L. Robinson, and the orders credited to specialists in the body of the list.

CHICAGO, August, 1895.

Plants of the Allison V. Armour Expedition.*

HEPATICAE.†

MASTIGOLEJEUNEA, Spruce.

M. auriculata, Wils.
On trunks of smooth trees. Chichen Itza, Jan. 17, 1895 (**106**).

CHEILOLEJEUNEA, Spruce.

C. ——— (Juvenile).
On bole of living tree. Mascab Pixoy, Jan. 22, 1895 (**151**).

C. ——— (Juvenile).
On trunk living Ceibo. Island of Cozumel, Jan. 5, 1895 (**37**).

EULEJEUNEA, Spruce.

E. lepida, L. & G.
On bark of living Ceibo. Island of Cozumel, Jan. 5, 1895 (**32**).

MUSCI.§

BARBULA, Hedw.

B. agraria, Hedw.
On dry limestone cobble, Cedral, Island of Cozumel, Jan. 5, 1895 (**48**). Associated with Didymodon æneus on dry limestone rock, Chal-tun-ha road, near Izamal, Jan. 1895 (**80** in part).

DIDYMODON, Hedw.

D. æneus, Sch.
Associated with Barbula agraria on dry limestone rock, Chal-tün-ha road, near Izamal, Jan. 14, 1895 (**80** in part) sterile.

STEREOPHYLLUM, Hedw.

S. leucostegum (Brid).
On limestone rock, Island of Cozumel, Jan. 5, 1895 (**33**). On dead and decaying limb, Lagoona Colombia, Island of Cozumel, Jan. 7, 1895 (**47**).

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* In black face type

†Specimens kindly determined by Professor L. M. Underwood, who also referred the two Cheilolejeunea to Professor Stephani.

§Kindly determined by M. Professor Jules Cardot.

PTERIDOPHYTA.*

POLYDPODIUM, Linn.

P. Phyllitidis, Linn.
On fallen trunk of dead tree, Cedral, Island of Cozumel, Jan. 5, 1895 **(38)**.

Specimens very large and fine.

P. lycopodioides, Linn.
Climbing living trees in dry open woods, Chichen Itza, Jan. 18, 1895 **(134)**.

The same fine large form collected by Mr. Pringle in upper Mexico.

ADIANTUM, Linn.

A. tricholepis, Fee.
Mouth of small cave, north aspect of the Cerro Grande, Izamal, Jan. 13, 1895 **(54)**. Crevices of north aspect ruin of the Monjas, Chichen Itza, Jan. 17, 1895 **(112)**.

Both are excellent specimens of this once rare, beautiful fern.

PTERIS, Linn.

P. acquilina caudata (Linn.), Hook.
Pteris caudata, Linn. Collected by Dr. Gaumer on the Island of Cozumel, 1885.

HEMITELIA, R. Brown.

H. Hartii, Baker.
Collected by Dr. Gaumer on the Island of Cozumel, 1885.

CHEILANTHES, Swartz.

C. leucopoda, Link.
Collected by Dr. Gaumer on the Island of Cozumel, 1885.

ASPLENIUM, Linn.

A. pumilum, Swartz.
On sandy loam under limestone ledge, Cedral, Island of Cozumel, Jan. 5, 1895 **(35)**.

Fronds taller than is usual, the upper portion more elongated than in the type, and deeply pinnatifid to the acuminated apex, with the lobes more or less deeply cut, but not laciniated. Quite unlike in appearance the smaller normally deltoid forms with entire, or nearly entire upper third, but otherwise the characters are the same. The species, however, like all other Aspleneæ, is an extremely variable one, and the present form is no greatly marked exception.

Smaller plants with firmer texture collected at the same station on the under side of a small projecting limestone ledge **(36)**.

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* Determinations and notes of my numbers kindly made by Mr. Geo. E. Davenport.

ASPIDIUM, Swartz.

A. trifoliatum, Swartz.

On the rocky walls of the Cenote de Cafetal, Chichen Itza, Jan. 18, 1895 **(132, 133)**.

These two numbers embrace a series of forms from very small, young, and undeveloped plants upward, and prove especially interesting on this account.

ANEIMIA, Swartz.

A. adiantifolia, Swartz.

Mouth of small cave, north aspect of the Cerro Grande, Izamal, Jan. 13, 1895 **(58)**.

CYCADACEAE.

DIOON, Lindl.

D. spinulosum, Dyer.

Progreso (C. *J. Hoege*).

PANDANACEAE.

PANDANUS, Linn. f.

P. utilis, L. f. **PAH.**

Margin of the Aguada of Xcholac, about two leagues south of Izamal.

P. Candelabrum, P. Beauv. **ƆIPIL.***

In the scrub between Progreso and the first railroad station south.

GRAMINEAE.

(*Maydeæ*).

COIX, Linn.

C. lachryma-Jobi, Linn. Job's Tears.

Collected in the Patio of the residence of Dr. Gaumer, Izamal, Jan. 13, 1895 **(73)**.

(*Paniceæ*).

PANICUM, Linn.

P. sanguinale, Linn.

Collected by Dr. Gaumer on the Island of Cozumel, 1885.

P. Lindeni, Fourn.

Yucatan, type loc. ignot. (*Linden*).

CENCHRUS, Linn.

C. pallidus, Fourn.†

Crevices in rocks in the Patio of Dr. Gaumer, Izamal, Jan. 13, 1895 **(70)**.

Note: Fourn. Mex. Pl. Gram. p. 50, = 465 Liebman from Santa Cruz.

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* The inverted letter C is pronounced in the Maya *tz*.

† Kindly determined by Professor F. Lamson Scribner.

C. brevisetus, Fourn.*

Sands of the beach at Progreso, especially near the cattle pens where many cattle are herded on arrival from Tampico and other ports on the Gulf Coast of Mexico. Jan. 26, 1895 (**204**).

Note: Fourn. Mex. Pl. Enum. Gram. p. 50. = 3140 Bourgeau from Orizaba, Mexico.

STENOTAPHRUM, Trin.

S. Americanum, Schrank.*

Grassy edge of the sandy beach west shore, Island of Cozumel, at the portage to Lagoona Colombia, Jan. 7, 1895 (**50**).

(*Chlorideæ*).

CHLORIS, Sw.

C. Petræa, Linn.

Collected on the Island of Holbox by Dr. Gaumer, 1886.

BOUTELOUA, Lagasca.

B. Triæna (Spreng), Scribner.*

Top of pyramid of El Castillo, Chichen Itza, Jan. 19, 1895 (**135**).

Note: Scribner Proc. Acad. Nat. Sci. Phila., 1891, p. 307. *Antheropogon Triæna,* Spreng, Syst. 1, p. 293, ex. Kunth; *Bouteloua triathera,* Bentham (in part).

ELEUSINE, Gærtn.

E. Indica, Gærtn.

Collected on the Islands of Holbox and Cozumel by Dr. Gaumer in 1885-6.

E. Ægyptiaca, Pers.

Collected on the Island of Holbox by Dr. Gaumer, 1886.

Festuceæ.

ERAGROSTIS, Host.

E. ciliaris, Link.

Collected on the Islands of Cozumel, Mugeres and Holbox by Dr. Gaumer, 1885-6.

CYPERACEAE.

CYPERUS, Linn.

C. Brunneus, Sw.

Islands of Mugeres and Cozumel (*Gaumer*, 1886).

C. aristatus, Rottb.

Yucatan, loc. ignot. (*Schott*).

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*Determined by Professor F. Lamson Scribner.

C. Ottonis, Boeckl.*
On the apex of the reef rocks, north end of the Island of Mugeres, Jan. 2, 1895 (**22**).

C. ligularis, Linn.
Island of Cozumel (*Gaumer*, 1885).

C. thrysiflorus, Jungh.
Island of Cozumel (*Gaumer*, 1885).

IRIA, Rich.

I, polymorpha (Boeckl.) O.K.
Fimbristylis polymorpha, Boeckl. Island of Holbox (*Gaumer*, 1886).

PALMAE.

THRINAX, Sw.

T. parviflora, Sw.
Throughout the Islands of Mugeres, Cankun and Cozumel. Island of Cozumel (*Gaumer*, 1885), "very abundant."

SABAL, Adans.

S. Mexicana, ? *Bayal.* **XAAN.**
The common palmetto of the Islands and the Main, growing often to a height of 80 feet. In woodlands everywhere.

S. ——— sp. (Hemsl.)
Island of Mugeres (*Gaumer*, 1886).

COCOS, Linn.

C. nucifera, Linn. *Coco.*
Islands of Contoy, Mugeres, Cancun and Cozumel, along the coast throughout, and as far inland as Izamal, though the tree does not thrive well at the latter place. The trees and fruits on Cozumel and Cancun are specially fine.

ARACEAE.

PHILODENDRON, Schott.

P. lacerum, (Jacq.) Schott?
Arum lacerum. Jacq. On the walls of the Cenote de Cafetal, Chichen Itza, in leaf only, Jan. 19, 1895.

BROMELIACEAE.

BROMELIA, Linn.

B. Pinguin, Linn. **CHOM**
Common along the bridle path from Mascab Pixoy to Chichen Itza, some specially fine specimens near Pisté.

Many specimens of Bromeliads and Orchids were seen on the trees of this region, but all were out of flower, and but few with old fruits, Jan. 17, 1895.

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* Determined by Professor N. L. Britton.

ANANAS, Adans.

A. sativus, Mill. *Pina.* Pineapple.
The Pineapple is cultivated extensively on the Island of Cozumel, where the fruit is said to be the best produced in Mexico.

ÆCHMEA, R. & P.

A. laxiflora, Benth.
Yucatan, loc. ignot. (*Schott*).

HECHTIA, Kl.

H. Schottii, Baker.
Type locality, on the Cerro de Maxeana (*Schott*).

TILLANDSIA, Linn.

T. filifolia, Ch. & Schl.
Yucatan, loc. ignot. (*Johnson*).

T. polystachya, Linn.
Yucatan, loc. ignot. (*Johnson, Schott*).

T. vestita, Ch. & Schl.
Yucatan, loc. ignot (*Johnson*).

T. ——— sp. (Hemsl.)
Island of Holbox (*Gaumer*, 1886).

LILIACEAE.

YUCCA, Linn.

Y. Yucatana, Engelm.
Type locality, Ruins of Nohpat (*Schott*).

DASYLIRION, Zucc.

D. pliabile, Baker.
Yucatan, type loc. ignot. (*Schott*).

SMILACEAE.

SMILAX, Linn.

S. Mexicana, Kth. ? var., (Hemsl).
Island of Cozumel (*Gaumer*, 1885).

AMARYLLIDACEAE.

AMARYLLIS, Linn.

A. equestris (Herb.) Ait.
Hippeastrum equestre, Herb. Island of Cozumel (*Gaumer*, 1885). Yucatan loc. ignot. (*Johnson*).

DIOSCOREACEA.

DIOSCOREA, Linn.

D. spiculiflora, Hemsl.
Yucatan type, loc. ignot. (*Linden*).

D. densiflora, Hemsl.
Island of Cozumel (*Gaumer*, 1886).

IRIDACEAE.

TIGRIDIA, Ker.

T. violacea, Schiede & Schl.
Yucatan, loc. ignot. (*Linden*).

MUSACEAE.

MUSA, Linn.

M. sapientum, Linn. Banana, **SAC HAAS.**
Cultivated on the Island and throughout the Main.

M. paradisiaca, Linn. Plantain, **BOX HAAS.**
Cultivated at San Miguel and Colombia, Island of Cozumel; at Merida, Izamal and Tuncas.

CANNACEAE.

CANNA, Linn.

C. Indica, Linn.
Island of Cozumel (*Gaumer*, 1886).

COMMELYNACEAE.

COMMELINA, Linn.

C. erecta, Linn.
Island of Cozumel (*Gaumer*, 1885).

C. Virginica, Linn.
Islands of Mugeres and Cozumel (*Gaumer*, 1886).

CALLISIA, Linn.

C. repens, Linn.
Yucatan, loc. ignot. (*Schott*).

ORCHIDACEAE.

CATTLEYA, Lindl.

C. ——— sp.
Abundant on various trees from Mascab Pixoy to Chichen Itza. In fruit only, Jan. 17, 1895.

PIPERACEAE.

PIPER, Linn.

P. Yucatanense, C. DC.
Yucatan, type loc. ignot. (*Linden*).

CASUARINACEAE.

CASUARINA, Linn.

C. Equisetæfolia, Linn.
Cultivated in the Campo Santo of Dolores, Island of Mugeres; Streets of San Miguel, Island of Cozumel; Island of Cankun; and in Merida, Izamal, and Progreso, Jan. 26, 1895 (**204**), height 30 to 60 feet.

MORACEAE.

FICUS, Linn.

F. laurifolia, Lam. *Laurel de la India.*
Cultivated extensively as an ornamental shade tree. Introduced from Cuba. Fine examples at Oncaan, Ouan, and Bocoba.

F. rubiginosa, ? (Plate I, Frontispiece). *Copo. Alamo.*
This form, to which we make doubtful reference in the absence of satisfactory flowers and fruits, is the most common species throughout the route we traveled on the Peninsula. It is a large tree 25 to 45 feet high, greatly spreading and very umbrageous. For some unaccountable reason it is called the *Alamo* (Poplar) by the Spaniards. Its juice contains sufficient caoutchouc to form, when mixed with that of the Sapote, an excellent bird lime.

F. grandifolia, ? **AKUM.**
A large tree 30 to 50 feet high. Fine specimens noted at Chichen Itza.

ALICASTRUM, P. Br.

A. Brownei, O.K. *Ramon.* **OX.**
Brosimum Alicastrum, Sw. Cultivated for fodder throughout the region embraced, also on the Islands of Mugeres and Cozumel. Fine specimens at Merida, Izamal, and Chichen Itza. Grows from 50 to 80 feet high. Yucatan, loc. ignot. (*Linden*).

The foliage "Ramon," serves as the principal green fodder for horses and mules from June to March. The wood is white and compact, and is used in carpentry; the fruit when boiled is eaten either alone or mixed with honey or corn meal, and the milky juice is used as an anti-spasmodic in the difficult breathing of asthma.

URTICACEAE.

URERA, Gaud.

U. microcarpa, Wedd.
Yucatan, loc. ignot. (*Johnson*).

ARISTOLOCHIACEAE.

ARISTOLOCHIA.

A. grandiflora, Sw.

Aristolochia foetens, Lindl. Cultivated at Izamal by Dr. Geo. F. Gaumer, who brought it from the Honduran Island of Ruatan in 1886. In flower, Izamal, Jan. 13, 1895 (**68**).

POLYGONACEAE.

ANTIGONON, Endl.

A. leptopus, Hook & Arn. ?

Island of Cozumel (*Gaumer,* 1885), "sepala exteriora basi subcordata," Hemsl.

COCCOLOBA, Linn.

C. Uvifera (Linn.) Jacq. *Uba.*

Polygonum Uvifera, Linn. On the inland edge of the sandy beach, Islands of Cozumel and Mugeres Jan. 1, 1895. Also collected here by Dr. Gaumer, 1885.

C. Cozumelensis, Hemsl.

Type locality, Island of Cozumel (*Gaumer,* 1885).

CHENOPODIACEAE.

ATRIPLEX, Linn.

A. cristata, H. B. K.

Island of Holbox (*Gaumer,* 1886).

LERCHEA, Hall.

L. ——— Sp. (Hemsl.)

L. Suaeda, Forsk. Island of Holbox (*Gaumer,* 1886).

AMARANTHACEAE.

CELOSIA, Linn.

C. paniculatata, Linn.

C. nitida, Vahl. Island of Mugeres (*Gaumer,* 1886).

AMARANTHUS, Linn.

A. hybridus, Linn. **XTEZ.**

A. chlorostachys, Willd. About the ruins of the old church of the Hacienda, Chichen Itza, Jan. 1895 (**129**).

The Maya name Xtez is applied to all similar Amaranths.

ACHYRANTHES, Linn.

A. aspera, Linn. *Sorillo blanco.* **SAC-PICHÉ.**

Waste grounds around the old church of the Hacienda, Chichen Itza, Jan. 18, 1895 (**131**).

ALTERNANTHERA, Forsk.

A. straminea (Mart).
Megiphanes straminea, Mart. Island of Cozumel (*Gaumer*, 1885).

GOMPHRAENA, Linn.

G. capituliflora.
Campo about Izamal, Jan. 23, 1895 (**174**).

G. vermicularis, Linn.
Island of Holbox (*Gaumer*, 1886).

IRISINE, P. Br.

I. celosioides, Linn.
Island of Cozumel (*Gaumer*, 1885 and 1886). Yucatan loc. ignot. (*Johnson*).

I. luzuliflora, Griseb.
Plentiful on the north slope of the Cerro Grande, Izamal, Jan. 13, 1895 (**59**). On the ruins of the Monjas, Chichen Itza, Jan. 17, 1895. In our specimens the stem is ligneous and nearly erect.

PHYTOLACCACEAE.

RIVINA, Linn.

R. humilis, Linn.
Island of Cozumel (*Gaumer*, 1885).

R. humilis glabra, Linn.
Base of smaller mound, Izamal, Jan. 14, 1895 (**85**), in flower and young fruit. Growing in crevices of masonry, old Hacienda, Chichen Itza, Jan. 17, 1895 (**101**), in flower and ripe fruit. Among the rocks, South Point, Island of Mugeres, in flower and ripe fruit Jan. 2, 1895.

R. scandens (Linn.) Mill.
Rivinia humilis scandens, Linn. *Villamilla octandra*, Hook. Yucatan, loc. ignot. (*Johnson*).

R. lævis, Linn.
Islands of Mugeres and Cozumel (*Gaumer*, 1886).

PETIVERIA, Linn.

P. alliacea, Linn.
Yucatan, loc. ignot. (*Linden*, *Johnson*).

NYCTAGINACEAE.

MIRABILIS, Linn.

M. longifolia, Linn. **XPAK-UM-PAK.**
Frequent about the ruins of Chichen Itza, Jan. 18, 1895 (**121**).

BOERHAAVIA, Linn.

B. erecta, Linn.
Island of Cozumel (*Gaumer*, 1885 and 1886). Campo about Izamal, Jan. 23, 1895 (**184**).

B. hirsuta, Linn.
Campo about Izamal, Jan, 23, 1895 (**172**).

NYMPHACEAE.

CABOMBA, Aubl.

C. aquatica, Aubl.
Yucatan, loc. ignot. (*Linden*).

CASTALIA, Salisb.

C. ampla (DC.) Salisb. **LAB.**
Nymphæa ampla, DC. At the margin of the Aguada of Xcolak, near Izamal, Jan. 22, 1895 (**159**).

ANONACEAE.

ANONA, Linn.

A. squamosa, Linn. *Saramuyo.* Custard Apple. **OALMUY.**
Cultivated extensively in gardens in Merida and Izamal for its fruit.

A. Insularis, Hemsl.
Type locality, Island of Cozumel (*Gaumer*, 1885).

A. muricata, Linn. *Guanabano.*
Cultivated extensively on the Peninsula, Merida, Izamal.

RANUNCULACEAE.

CLEMATIS, Linn.

C. Caripensis, H. B. K.
Clematis Caracasana, DC. Yucatan loc. ignot. (*Johnson*).

C. dioica, Linn.
Edges of the scrub Izamal, Jan. 23, 1895 (**178**), in fruit only. Island of Cozumel (*Gaumer*, 1886).

C. Flammulastrum, Griseb.
Ruins of Uxmal (*Schott*).

LAURACEAE.

PERSEA, Gaertn.

P. gratissima, Gaertn. *Aguacate.* Alligator Pear. **ON.**
A small spreading tree, cultivated extensively for its fruit. Izamal. Merida, Tuncas, Chichen Itza.

NECTANDRA, Roland.

N. Willdenowiana, Nees.
Island of Cozumel (*Gaumer*, 1885), varietates, Hemsley.

CASSYTHA, Linn.

C. filiformis, Linn.
Cassytha Americana, Nees. Island of Holbox (*Gaumer*, 1886).

PAPAVERACEAE.

ARGEMONE, Linn.

A. Mexicana, Linn. *Cardosanto.*
About the huts and streets of Cedral, Island of Cozumel Jan. 5, 1895, (**34**); also collected here by Dr. Gaumer in 1885-6. A garden weed in Merida and Izamal.

CRUCIFERAE.

CAKILE, Gaertn.

C. æqualis, L'Her.
Cakile maritima, Rich. Island of Mugeres, on the sands of the beach together with *Tournefortia gnaphalodes* forming the first verdure back from the sea. North Point and near the Campo Santo of Dolores, Jan. 1, 1895 (**13**), also collected here by Dr. Gaumer in 1885. Progreso, in the same situation and association, Jan. 26, 1895.
A form of this species, Island of Cozumel (*Gaumer*, 1885).

CAPPARIDACEAE.

CAPPARIS, Linn.

C. amygdalina, Lam.
Yucatan, loc. ignot. (*Linden*).

CRATAEVA, Linn.

C. Tapia, Linn.
Tree 20 to 25 feet; woodlands about Izamal, Jan. 23, 1895 (**187**).

CRASSULACEAE.

BRYOPHYLLUM, Salisb.

B. pinnatum (Lam.) S. Kurz.
Cotyledon pinnatum, Lam. *Bryophyllum calycinum*, Salisb. Plentiful on the north aspect of the Cerro Grande, Izamal, Jan. 13, 1895 (**62**). A dense growth of this species masses the ground about the east margin of the Cenote of Ix-Kil, Chichen Itza. Island of Cozumel (*Gaumer*, 1885).

ROSACEAE.

CHRYSOBALANUS, Linn.

C. Icaco, Linn.
Island of Mugeres (*Gaumer*, 1886).

LEGUMINOSAE.

PITHECOLOBIUM, Mart.

P. ligustrinum, Kl.
Yucatan, loc. ignot. (*Johnson*).

P. sericifolium, Benth. ?
Island of Cozumel (*Gaumer*, 1885), "Vine 10 to 50 feet; common.'

P. oblongum, Benth.
Island of Mugeres (*Gaumer*, 1886).

P. Unguis-Cati (Linn.) Benth.
Island of Mugeres (*Gaumer*, 1886). Along the Tepakaam road, near Izamal, Jan. 15, 1895 (**92**).

CALLIANDRA, Benth.

C. Portoricensis (Jacq.) Benth.
Yucatan, loc. ignot. (*Johnson*).

LYSILOMA, Benth. ?

L.———— sp. nov. Hemsl.
Island of Cozumel (*Gaumer*, 1885). Tree 25 to 100 feet; abundant, fruit wanting. Aff. *L. Schiedeanae*, Hemsley.

ACACIA, Linn.

A. cornigera (Linn.) Willd. ?
Mimosa cornigera, Linn. Very abundant in the scrub lands of the Island of Cozumel, and from Progreso to Chichen Itza.

A. Farnesiana (Linn.) Willd. ?
Mimosa Farnesiana, Linn. Island of Cozumel (*Gaumer*, 1885 and 1886). "Not common."

A. spadicigera, Ch. & Schl.
Island of Cozumel (*Gaumer*, 1885). "Abundant." Dr. Gaumer tells me that the Cozumelian plant is the same as that of the Main, and that his plants from there differ in no way from my No. **221** from Izamal. This removes the question mark from the species in Biol. Centr. Am., Vol. 4, p. 99.

LEUCAENA, Benth.

L. glauca (Linn.) Benth.
Mimosa glauca, Linn. Campo about Izamal, Jan. 23, 1895 (**182**).

MIMOSA, Linn.

M. trijuga, Benth.
Yucatan, loc. ignot. (*Johnson*).

DESMANTHUS, Willd.

D. depressus, Humb. & Bonpl.
Island of Cozumel (*Gaumer*, 1886).

TAMARINDUS, Linn.

T. Indica, Linn.
Cultivated at Cedral, Island of Cozumel.

BAUHINIA, Linn.

B. divaricata, Linn. *Pata de Vaca.*
Bauhinia porrecta, Sw. Scrub about Izamal, Jan. 22, 1895 (**216**). Yucatan, loc. ignot. (*Johnson*). Island of Cozumel (*Gaumer*, 1885 and 1886).

The Spanish name "*Pata de Vaca*" is applied to all of the Bauhinias having bilobed leaves.

B. latifolia, Cav.
Scrub about Izamal, Jan. 22, 1895 (**217**).

B. Lamarckiana, DC.
Borders of the more open woods, Mascab-Pixoy, Jan. 22, 1895 (**144**).

CASSIA, Linn.

C. biflora, Linn.
Izamal, Jan. 23, 1895 (**186**), Bushy, 4 ft. high.

C. alata, Linn.
Island of Cozumel (*Gaumer*, 1885), "Rare."

C. emarginata, Linn.
Island of Cozumel (*Gaumer*, 1885), "very abundant."

C. ——— sp. **YAXHABIN.**
Tree 10 to 20 feet; abundant in the scrub-land from Progreso to Merida along the railroad. Flowers bright yellow, the most striking feature of the flora of January.

C. bacillaris, Linn. f.
Yucatan, loc. ignot. (*Johnson*).

C. bicapsularis, Linn.
Yucatan, loc. ignot. (*Johnson*).

C. reticulata, Willd.
Yucatan, loc. ignot. (*Johnson*).

C. occidentalis, Linn.
Lagoona Colombia, Island of Cozumel; Izamal, and Chichen Itza, Jan. 1895. Island of Mugeres (*Gaumer*, 1886).

C. ——— sp. (Hemsl).
Islands of Cozumel and Mugeres (*Gaumer*, 1886).

HAEMATOXYLON, Linn.

H. Campechianum, Linn.
Yucatan, loc. ignot. (*Johnson*).

CAESALPINIA, Linn.

C. Bonducella (Linn). Flem.
Guilandina Bonducella, Linn. A mass of this species on the skirts of the woods, South Point, Island of Mugeres, in fruit only Jan. 2, 1895.

C. pulcherrima (Linn). Sw.
Poinciana pulcherrima, Linn. Island of Cozumel (*Gaumer*, 1885), "very abundant."

C. exostemma, DC.
In the scrub along the road to Chal-tun-ha near Izamal, Jan. 13, 1895 (**75**).

ATELEIA, Moc. & Sess.

A. pterocarpa (DC.)
Edge of woods, road to Cedral, Island of Cozumel, Jan. 5, 1895 (**44**).

A. microcarpa (Pers).
Pterocarpus microcarpus, Pers. Scrub about Izamal, Jan. 23, 1895 (**177**).

SOPHORA, Linn.

S. tomentosa, Linn.
Island of Mugeres (*Gaumer*, 1886).

CROTALARIA, Linn.

C. pumila, Orteg.
Island of Mugeres (*Gaumer*, 1886).

INDIGOFERA, Linn.

I. Anil, Linn.
Island of Cozumel (*Gaumer*, 1886).

I. mucronata, Spreng.
Island of Cozumel (*Gaumer*, 1886).

PAROSELA, Cav.

P. Domingensis (DC).
Dalea Domingensis, DC. In the scrub bordering the road to Chal-tun-ha, near Izamal, Jan. 13, 1895 (**77**).

CRACCA, Linn.

C. cinerea (Linn), O.K.

Galega cinerea, Linn. *Tephrosia cinerea*, Pers. Yucatan, loc. ignot. (*Linden*). Island of Cozumel (*Gaumer*, 1885).

C. Caribæa, Benth.?

Island of Cozumel (*Gaumer*, 1885)

C. ——— sp. (Hemsl.)

Island of Cozumel (*Gaumer*, 1885), "a fragment only."

GLIRICIDIA, H.B.K.

G. ——— sp. nov. Hemsl.

Island of Cozumel (*Gaumer*, 1885). "Tree 50 feet; not abundant. In the absence of the fruit the genus of this tree cannot be satisfactorily determined." Hemsley.

G. maculata, H.B.K.

Island of Cozumel (*Gaumer*, 1886).

DIPHYSA, Jacq.

D. ——— sp. nov.? Hemsl.

Island of Cozumel (*Gaumer*, 1885), "Specimen insufficient for satisfactory determination. It may be: *D. Sennoidei* var. nov.? Hemsley."

AESCHYNOMENE, Linn.

A. Americana, Linn.

Yucatan, loc. ignot. (*Linden*).

MEIBOMIA, Adans.

M. affinis (Schl.) O.K.

Desmodium affine, Schl. Yucatan, loc. ignot. (*Johnson*).

M. adsendens (Sw.) O.K.

Hedysarum adsendens, Sw. Island of Cozumel (*Gaumer*, 1885).

AMERIMNON, P. Br.

A. Campechianum (Benth) O.K.

Dalbergia Campechiana, Benth. Yucatan, loc. ignot. (*Linden, Johnson.*)

LONCHOCARPUS, H.B.K.

L. violaceus, H.B.K.?

Island of Cozumel (*Gaumer*, 1885). "Tree 20 to 60 feet; very abundant."

ICHTHYOMETHIA, P. Br.

I. Piscipula (Linn.) O.K.

Erythrina Piscipula, Linn., *Piscidia Erythrina*, Linn. Island of Cozumel (*Gaumer*, 1885), "very common."

BRADBURYA, Raf

B. Virginiana (Linn.) O.K.
Clitoria Virginiana, Linn., *Centrosema Virginianum*, Benth. Island of Cozumel (*Gaumer*, 1885).

B. pubescens (Benth.) O.K.
Centrosema pubescens, Benth. Yucatan, loc. ignot. (*Johnson*).

ERYTHRINA, Linn.

E. carnea, Ait.
Frequent in the scrub about Izamal, Jan. 14, 1895 (**94**).

CALOPOGONIUM, Desv.

C. caeruleum, Desv.
Yucatan, loc. ignot. (*Johnson*).

GALACTIA, P. Br.

G. ——— sp. (Hemsl.)
Island of Cozumel (*Gaumer*, 1886).

RHYNCHOSIA, Lour.

R. minima (Linn.) DC.
Dolichos minima, Linn. Island of Mugeres (*Gaumer*, 1886).

PHASEOLUS, Linn.

P. lunatus, Linn.
Island of Cozumel (*Gaumer*, 1886).

P. vulgaris, Linn. *Frijol.* **BUUL.**
Island of Cozumel (*Gaumer*, 1886).

P. Truxillensis, H.B.K.
Yucatan, loc. ignot. (*Johnson*).

DOLICHOS, Linn.

D. puriens, Linn. **CHICAN.**
In the thicket, base of the smaller mound, Izamal, Jan. 14, 1895, in fruit only.

MALPIGHIACEAE.

HIRAEA, Jacq.

H. Barclayana, Benth. ?
Island of Cozumel (*Gaumer*, 1885).

HETEROPTERYS, Kth.

H. floribunda, H.B.K.
Yucatan, loc. ignot. (*Johnson*).

H. Lindeniana, A. Juss.
Yucatan, typ. loc. ignot. (*Linden*).

H. longifolia, H.B.K.
Yucatan, loc. ignot. (*Johnson*).

MALPIGHIA, Linn.

M. undulata, Juss.
Island of Cozumel (*Gaumer*, 1886).

BUNCHOSIA, Rich.

B. Lindeniana, A. Juss.
Yucatan, loc. ignot. (*Johnson*).

BYRSONIMA, Rich.

B. Karwinskiana, A. Juss.
Yucatan, loc. ignot. (*Johnson*).

B. crassifolia, H.B.K., var. (Hemsl.)
B. Cumingiana, A. Juss. Island of Cozumel (*Gaumer*, 1885). "Not common."

ZYGOPHYLLACEAE.

TRIBULUS, Linn.

T. terrestris cistoides (Linn.) Oliver. *Abrojo.* **CHANXNUC.**
Tribulus cistoides, Linn. Streets of Progreso, May, 1887, Jan. 26, 1895 (**200**).

T. maximus, Linn.
Island of Cozumel (*Gaumer*, 1885).

RUTACEAE.

RUTACEARUM, Hemsl.

R. ——— Gen. et. sp. nov. Hemsl.
Island of Mugeres (*Gaumer*, 1886). "This may prove the type of a new genus; but without fruit it is impossible to be sure on this point." Hemsley.

ZANTHOXYLUM, Linn.

Z. pterota, Linn.
Island of Cozumel (*Gaumer*, 1885). "Not common.'

ENSENBECKIA, Kth

E. pentaphylla (Macf.) Griseb.
Island of Mugeres (*Gaumer*, 1886).

PTELEA, Linn.

P. pentandra, DC.
A low tree in the shrubbery of the north side of the smalle mound at Izamal, Jan. 14, 1895 (**86**). Immature.

CHALCAS, Linn.

C. exotica (Linn).
Murraya exotica, Linn. Introduced on the Island of Cozume (*Gaumer,* 1885).

CITRUS, Linn.

C. aurantium, L. *Naranja.* Orange.
Cultivated throughout the mainland, and on the Island of Cozumel. The first planting of the orange in Mexico was doubtless that of Bernal Diaz, who, while attached to the army of Cortez, sowed seed near the present location of Vera Cruz, and transplanted the resulting trees after the conquest. Several of these trees were again transplanted to Merida by Montejo, early in the 16th century.

C. vulgaris, Risso. *Cajera.* Bitter Orange. **SUTZ-PAKAL.**
Cultivated at San Miguel, Island of Cozumel, and on the mainland. Notwithstanding its bitter acid taste it is a very refreshing fruit, and is much prized by the natives.

C. Limonum, Risso. *Limon.* Lemon.
Cultivated at Progreso, Merida and Izamal, not so extensively however as the next species.

C. Limetta, Risso. *Limoncillo.* Lime.
Cultivated throughout the mainland, and on the Island of Cozumel; met with as far south as Mascab Pixoy.

SIMARUBACEAE.

SURIANA, Linn.

S. maritima, Linn.
North Point, Island of Mugeres, Jan. 2, 1895 (**23**). A shrub 5 to 10 feet high, bark thin, grayish-white, heart wood red, very hard. A prominent feature of the littoral growth.
Islands of Holbox and Mugeres (*Gaumer,* 1886).

PICRAMNIA, Sw.

P. Antidesma, Sw.
Island of Cozumel (*Gaumer,* 1885).

BURSERACEAE.

BURSERA, Linn.

B. Simaruba (Linn.) Sarg. **CHACAH.**
Bursera gummifera, Jacq. Abundant on the Islands of Mugeres and especially Cozumel, also between Tuncas and Chichen Itza on the Main, where its peculiar coppery trunk and divaricate branches render it a conspicuous object in the forest. It grows from 25 to 50 feet. Not yet in leaf Jan. 1-22, 1895.

MELIACEAE.

MELIA, Linn.

M. Azederach, Linn.
Introduced on the Island of Cozumel (*Gaumer*, 1885).

TRICHILIA, P. Br.

T. Terminalis, Jacq.
Island of Cozumel (*Gaumer*, 1885). "Not common."

CEDRELA, P. Br.

C. odorata, Linn. **KUCHÉ. KULCHÉ.**
The *Cedro* or "Cedar" of Mexico. Common in the interior at Chichen Itza. Often growing from 20 to 40 feet high.

C. Glaziovii, C. DC.
In the interior forests (*Linden*).

POLYGALACEAE.

POLYGALA, Linn.

P. paniculata, Linn.
Yucatan, loc. ignot. (*Johnson*).

EUPHORBIACEAE.

PHYLLANTHUS, Linn.

P. acuminatus, Vahl.
Yucatan, loc. ignot. (*Linden*).

P. ——— sp. (Hemsl.)
Island of Cozumel (*Gaumer*, 1885). "May be a variety of *P. nutans*." Hemsley.

P. Niruri, Linn.
Island of Cozumel (*Gaumer*, 1886).

CROTON, Linn.

C. maritimus, Walt.
Trailing extensively in the clear sands of the beach at Progreso, Jan. 26, 1895 (**201**). Island of Holbox (*Gaumer*, 1886).

C. ——— sp. (Hemsl).
Island of Cozumel (*Gaumer*, 1885). "May be a variety of *C. astroites*." Hemsley.

C. Zalapensis, H. B. K.
Along the Tuncas road, near Mascab Pixoy, Jan. 22, 1895 (**150**).

ACALYPHA, Linn.

A. setosa, A. Rich.
A low form. Campo about Izamal, Jan. 23, 1895 (**180**).

A. alopocuroides, Jacq.
Island of Cozumel (*Gaumer*, 1886).

RICINUS, Linn.

R. communis, Linn. Higuerilla. Castor Bean. **XOX.**
Very common about dwellings and in waste grounds where it has apparently escaped. Noted at all points on our route on the Peninsula. Fine large plants at Ouan, Jan. 24, 1895 (**194**), Merida, April 14, 1887. Islands of Mugeres and Cozumel.

JATROPHA, Linn.

J. aconitifolia, Mill. *Picar.*
Frequent throughout the dry scrub about Izamal, Jan. 13, 1895 (**66**). On the Island of Cozumel, and at all points on the Peninsula, between Progreso and Chichen Itza.

The Spanish name *Picar*, as applied to this plant, is more a word of warning than a name.

EUPHORBIA, Linn.

(*Anisophyllum-Hypericifoliæ*).

E. pilulifera, Linn.
One small specimen only, collected on the summit of the Monjas, Chichen Itza, Jan. 17, 1895 (**219**). Collected by Dr. Gaumer on the Island of Cozumel, 1885.

E. hypericifolia, Linn.
The common West Indian form, Merida, Jan. 24, 1895 (**197-9**). Streets of San Miguel and Cedral, Island of Cozumel, Jan. 5, 1895. Also collected on Cozumel by Dr. Gaumer, 1885 and 1886.

(*Anisophyllum-Chamaesyceæ*).

E. ——— sp.
An interesting erect or prostrate form, near E. serrula and doubtless new; the specimens too young for determination.

Grassy edge of sands of West beach, Island of Cozumel at the portage to the Lagoon of Colombia, Jan. 7, 1895 (**49, 53**).

E. ovalifolia, Engelm.
A form with less turbinate involucres having no hairs in the throat, otherwise agreeing with the species as described.

Sandy roadside, Dolores, Island of Mugeres, Jan. 1, 1895 (**19**).

E. maculata, Linn.
A very pubescent form, without the usual maculate leaves common on the south point of Mugeres Island, and on the lower courses of "The Watch Tower" ruin, Jan. 2, 1895 (**24**).

E. adenoptera, Bertol.

Fine specimens with large rose-colored appendages on the dryest limestone ledges of the campo, Chichen Itza, Jan. 17, 1895 (**107**).

(*Anisophyllum-Sclerophyllæ*).

E. buxifolia, Lam.

Great tufts of this species form the only break in the wide sandy beach of the east shores of the Island of Cancun. Very common, Jan. 3, 1895 (**31**). Plants 15 to 18 cm. high. Grassy sands of the west shore Island of Cozumel, Jan. 7, 1895 (**52**). Plants 5 to 10 dm. high and very shrubby. Sands of shore at Progreso, Jan. 26, 1895 (**202**). Sandy streets village of Dolores, Island of Mugeres, Jan. 2, 1895 (**20**).

This species was also collected on Mugeres and Holbox Islands by Dr. Gaumer in 1886.

(*Adenopetalum-Cyttarospermum*).

E. Armourii. sp. nov. (Plate II.)

Caule erecto glabro, ramis tenuibus frutescentibus (?), ramulis axillaribus solitariis folio longioribus, partes junioribus et nervos foliorum minute hirtula, foliis longe petiolatis e basi cuneata ellipticis integris acutis anguste lanceolatis, involucris in axilis super. terminalibusque longiuscule pedicillatis breviter turbinatis, lobis truncatis profunde 4-dentatis, glandulis 5 planis transverse ovatis, appendice alba bipartita laciniis oblongo-linearibus obtusis glandula duplo longioribus, stylis profunde bipartitis, capsula glabra, seminibus ovatis ad margines puncto-fevearum prominente tuberculatis. Folia 14-24 mm. lon., 10-19 mm. lat., caules 2½-4 dm. lon., 1-2 mm. diam., invol. 2 mm. lon., 1 mm. lat., semin. 1 mm. lon. ¾ mm. lat.

Growing in the crevices of the masonry forming one of the temples of the sacred Itzae, Chichen Itza, Jan. 17, 1895 (**108**).

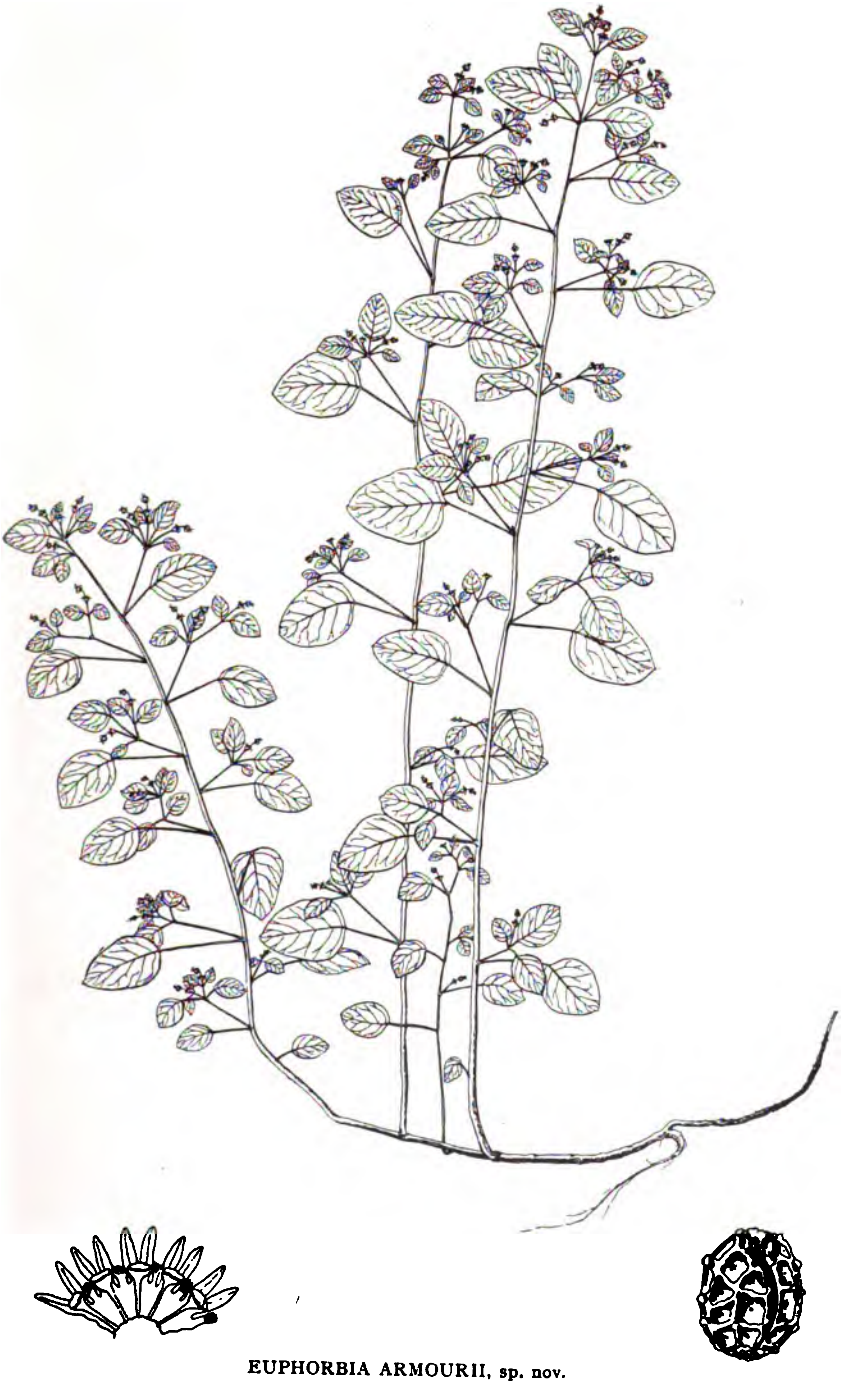
Named in honor of Mr. Allison V. Armour, the projector of the expedition on which this collection was made.

E. astroites heterappendiculata, var. nov.

Caule tenui *flacciduli* alternatim ramosissimo, ramis glanduloso-hirtis pluries et divaricatim dichotomis, foliis oppositis minimis *longe petiolatis* orbiculatis vel transverse latioribus adpressiuscule hirtis, stipulis obsoletis, involucris terminalibus pedicillatis valde glanduloso-hirtis, *lobis truncatis* 4-*dentatis*, glandulis transverse ovatis concavis, *appendice integris* 1–4 *dentatis, dentato*-2-3 *partitis vel 4-partitis*, *laciniis lineari-lanceolatis obtusis*, capsula hirta, stylis profunde bipartitts, seminibus ovatis ad margine puncto-fovearum prominente tuberculatis.

Caules 2–3 dm. lon., ramis 8–12 cm. lon., foliis inferioris 6 mm. lat., invol. 1 mm. lon., semin. 1 mm. lon. ¾ mm. lat. The species, *E. astroites*, F & M., was collected at Tampocoala, Mexico, by Karwinsky.

Crevices of rocks, east slope of the Cerro Grande, Izamal, Jan. 13, 1895 (**64**).



EUPHORBIA ARMOURII, sp. nov.

(*Adenopetalum-Alectoroctonum*).

E. petiolaris, Sins.
Collected on the Island of Cozumel by Dr. Gaumer in 1886.

(*Poinsettia*).

E. heterophylla, Linn. **HOBONKAK**
The usual form of the species. The Maya name "Hobonkak" signifies "Fire in the hollow" referring to the orange-red bases of the floral leaves.

Island of Mugeres, Jan. 1, 1895; Island of Cozumel, Jan. 5, 1895; Chichen Itza, Jan. 17, 1895 (**111**); Progreso, Jan. 26, 1895. Collected on Cozumel by Dr. Gaumer in 1885.

(*Tithymalus-Ipecacuanhæ*)

E. trichotoma, Kunth.
Collected on the Island of Cozumel by Dr. Gaumer in 1885.

MALVACEAE.

ABUTILON, Gaertn.

A. Indicum (Linn.) Don. **SAC-XIEU.**
Sida Indica, Linn. Frequent on the campo about the ruins, Chichen Itza, Jan. 18, 1895 (**124**).

MALVEOPSIS, Presl.

M. spicata (Linn.) O.K. **CHÉ-CHÉ-BÉ.**
Malva spicata, Linn. *Malvastrum spicatum,* Griseb. Campo about the ruins, Chichen Itza, Jan. 18, 1895 (**124**).

The Maya name Che-che-be, signifying "The Home of the Garrapata," is commonly applied to all malvaceæ resembling this species.

SIDA, Linn.

S. acuta carpinifolia (Linn. f.) K. Schum.
Island of Cozumel (*Gaumer,* 1885).

ANODA, Cav.

A. hastata (Willd.) Cav. *Amapolite.*
Sida hastata, Willd. About the ruins of the old church of the Hacienda, Chichen Itza, Jan, 18, 1895 (**126**).

A. acerifolia (Zucc.) DC.
Sida acerifolia, Zucc. About the base of the smaller mound, Izamal, Jan. 14, 1895 (**83**).

MALVAVISCUS, Adans.

M. sepium, Schl.
Yucatan, loc. ignot. (*Johnson*).

M. ——— sp. (Hemsl.)
Island of Cozumel (*Gaumer*, 1886). "Near *M. pilosus*, DC." Hemsley.

M. arboreus, Cav. forma.
A common shrub about Izamal. On the Cerro Grande, Jan. 13, 1895, (**60**). Fruits of this species were collected afterwards at Silam by Dr. Gaumer (April, 1895).

M. concinnus, H.B.K.
Roadside and edges of open woods. Cedral, Island of Cozumel, Jan. 5, 1895 (**42**).

HIBISCUS, Linn.

M. tubiflorus, DC. **HOL.**
Shrub 4 to 6 feet; widely branching. Road from Mascab Pixoy to Xuku, in flower and fruit Jan. 22, 1895 (**157**).

BOMBACACEAE.

BOMBAX, Linn.

B. Ceiba, Linn. *Ceiba,* **YAXCHÉ.**
One of the largest trees noted on the trip, 80 to 100 feet. Fine specimens in and about Izamal, and between Xcolak and Tuncas, also at Chichen Itza.

CAROLINEA, Linn.

C. alba (Aubl.) Lodd. **XCOUYCHÉ. KUYCHÉ.**
The beautiful *Amapola blanca,* cultivated extensively about Izamal and Merida. Not yet in bloom Jan. 21, 1895.

C. fastuosa, (D.C.) Sesse. *Amapola colorado.*
Cultivated with the last. A few of the magnificent rose-colored flowers expanded Jan. 21, 1895.

C. macrocarpa (Aubl.) Ch. & Schl.
Pachira macrocarpa, Aubl. Yucatan, loc. ignot. (*Johnson*).

CEIBA, Medic.

C. pentandra, (Linn.) Gaertn. *Pochote,* **PEEM.**
Bombax pentandrum, Linn. *Bombax Ceiba,* Lun. (non Linn.) *Eriodendron anfractuosum,* D.C. Plentiful throughout the Peninsula. Fine specimens both to the north and south of Izamal, also at Mascab Pixoy.

STERCULIACEAE.

MELOCHIA, Linn.

M. pyramidata, Linn.
Island of Cozumel (*Gaumer*, 1885).

M. tomentosa, Linn. ?
Island of Cozumel (*Gaumer*, 1885). "This may be a distinct species; it is the same as Berlandier's 3032 from the Texano-Mexican region, and there is also a specimen in the Kew Herbarium, collected by Coulter, from Sonora Alta." Hemsley.

WALTHERIA, Linn.

W. Americana, Linn.
Island of Cozumel ? (*Gaumer*, 1886). In a small clearing on the Tuncas road near Mascab Pixoy, Jan. 22, 1895 (**152**). Along the railroad at Acalchen, Jan. 24, 1895 (**192**).

AYENIA, Linn.

A. magna, Linn.
Yucatan, loc. ignot. (*Linden*).

THEOBROMA, Linn.

T. Cacao, Linn. *Cacao.*
A small tree, cultivated in favored localities for its fruit, the chocolate-nut. Chichen Itza, in the Cenote de Cafetal.

GUAZUMA, Plum.

G. tomentosa, H.B.K. **PIXOY.**
On the road to Cedral, Island of Cozumel, in fruit, Jan. 5, 1895 (**40**). At Mascab Pixoy, Luché Pixoy, and Chichen Itza, Island of Cozumel (*Gaumer*, 1885). Yucatan, loc. ignot. (*Johnson*).

STERCULIA, Linn.

S. Carthagensis, Cav.
Yucatan, loc. ignot. (*Johnson*).

GUTTIFERAE.

MAMMEA, Linn.

M. Americana, Linn.
Island of Cozumel (*Gaumer*, 1885). "Rare."

BIXACEAE.

MAXMILIANEA, Mart. & Schr.

M. hibiscoides (Humb. & Bonpl.) **CHUM.**
Cochlospermum hibiscoides, Humb. & Bonpl. A tree 30 to 40 feet high, with a thick bark and very soft wood. The bark is used in the manufacture of "Cubos"; a sort of bucket. At Xuku, Jan. 22, 1895 (**156**). In flower, not in leaf.

MYROXYLON, Forst.

M. nitidum (Schl.)
Hisingera nitida and *pubescens*, Schl. *Xylosma nitidum.* A. Gray. Yucatan, loc. ignot. (*Johnson*).

BIXIA, Linn.

B. Orellana, Linn. *Arnatto.* **URUCU.**
Cultivated for its seed, the aril of which yields the "Butter Color" of Commerce. Merida, Izamal, in fruit along the road to Chal-tun-ha, Jan. 14, 1895 (**81**).

VIOLACEAE.

CALYPTRION, Ging.

C. Hybanthus (Aubl.)
Viola Hybanthus Aubl. *Corynostylis Hybanthus* (Aubl.) Mart. & Zucc., *Calyptrion Aubletii* (E. Mey.) Ging. Yucatan, loc. ignot. (*Johnson*).

ANACARDIACEAE.

RHUS, Linn.

R. Metopium, Linn.
Island of Cozumel (*Gaumer*, 1885). "Rare."

SPONDIAS, Linn.

S. lutea, Linn. *Abal.* **XKININ-HOBÓ.**
Cultivated on the Island of Cozumel and throughout the Peninsula. Yucatan, loc. ignot. (*Johnson*). The fruit is known as the *Ciruela* or Yucatan Plum.

S. ——— sp. (Hemsl.)
Island of Cozumel (*Gaumer*, 1885). "Only male flowers and quite young leaves." (Hemsley).

MANGIFERA, Linn.

M. Indica, Linn. *Mango.*
Island of Cozumel (*Gaumer*, 1886).

CELASTRACEAE.

CASSINE, Linn.

C. ——— sp. (Hemsl.)
Elaeodendron sp. Hemsl. Island of Mugeres (*Gaumer*, 1886).

CROSSOPETALUM, P. Br.

C. pallens (Smith).
Myginda pallens, Smith. Island of Cozumel (*Gaumer*, 1885). "Very rare."

HIPPOCRATEACEAE.

HIPPOCRATEA, Linn.

H. tenella, Miers. ?

Island of Cozumel (*Gaumer*, 1885). "This may be specifically different from the Mexican plant, but the material is insufficient to settle the question." Hemsley.

SAPINDACEAE.

SERIANA, Schum.

S. Mexicana (Linn.) Willd.

Paulinia Mexicana, Linn., *Serjania Mexicana*, Willd. Yucatan, loc. ignot. (*Johnson*).

S. plicata (Radlk).

Yucatan, loc. ignot. (*Johnson*).

S. scatans (Radlk).

Yucatan, loc. ignot. (*Johnson*).

SCHMIDELIA, Linn.

S. comina, Sw. ?

Yucatan, loc. ignot. (*Linden*).

PAULINIA, Linn.

P. curassavica, Linn.

Island of Cozumel (*Gaumer*, 1886).

SAPINDUS, Linn.

S. ——— sp.

At the Lagoona Colombia, Island of Cozumel, Jan. 7, 1895, in fruit only. Also collected here by Dr. Gaumer in 1886.

ALVARADOA, Liebm.

A. amorphoides, Liebm. **BEL-CINICHÉ.**

In the scrub bordering the Chal-tun-ha road, near Izamal, Jan. 13, 1895 (**76**).

RHAMNACEAE.

GOUANIA, Jacq.

G. stipularis, DC.

In the interior forests (*Linden*); type locality?

VITACEAE.

VITIS, Linn.

V. sicyoides monstrosa, Baker.

Yucatan, loc. ignot. (*Johnson*).

V. tiliaefolia, Willd.

Island of Cozumel (*Gaumer*, 1885).

TILIACEAE.

TRIUMFETTA, Linn.

T. althaeoides, Lam.
Yucatan, loc. ignot. (*Johnson*)

CORCHORUS, Linn.

C. siliquosus, Linn.
Yucatan, loc. ignot. (*Johnson*).

PASSIFLORACEAE.

PASSIFLORA, Linn.

P. Andersonii, DC. ?
Island of Cozumel (*Gaumer*, 1885) "Vine 30 to 50 feet; very abundant."

P. foetida, Linn.
Island of Cozumel (*Gaumer*, 1885), Island of Mugeres (*Gaumer*, 1886).

CARICACEAE.

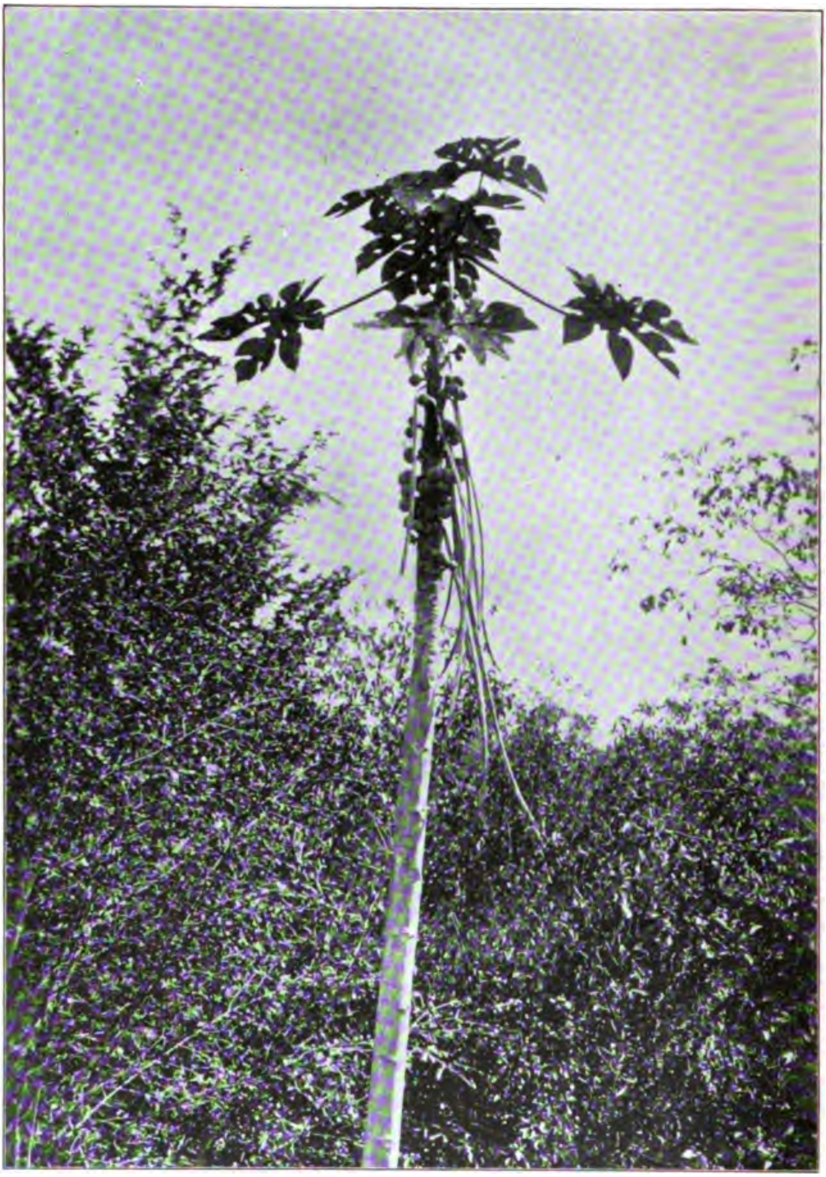
CARICA, Linn.

C. Papaya, Linn. (Plate III.) *Papaya los Pajaros*. **CHICH PÜT.**
Frequent on the islands of Mugeres, Cankun, and Cozumel, in fruit, very few specimens in flower. Chichen Itza, Jan. 20, 1895 (**143**). Island of Cozumel (*Gaumer*, 1886).

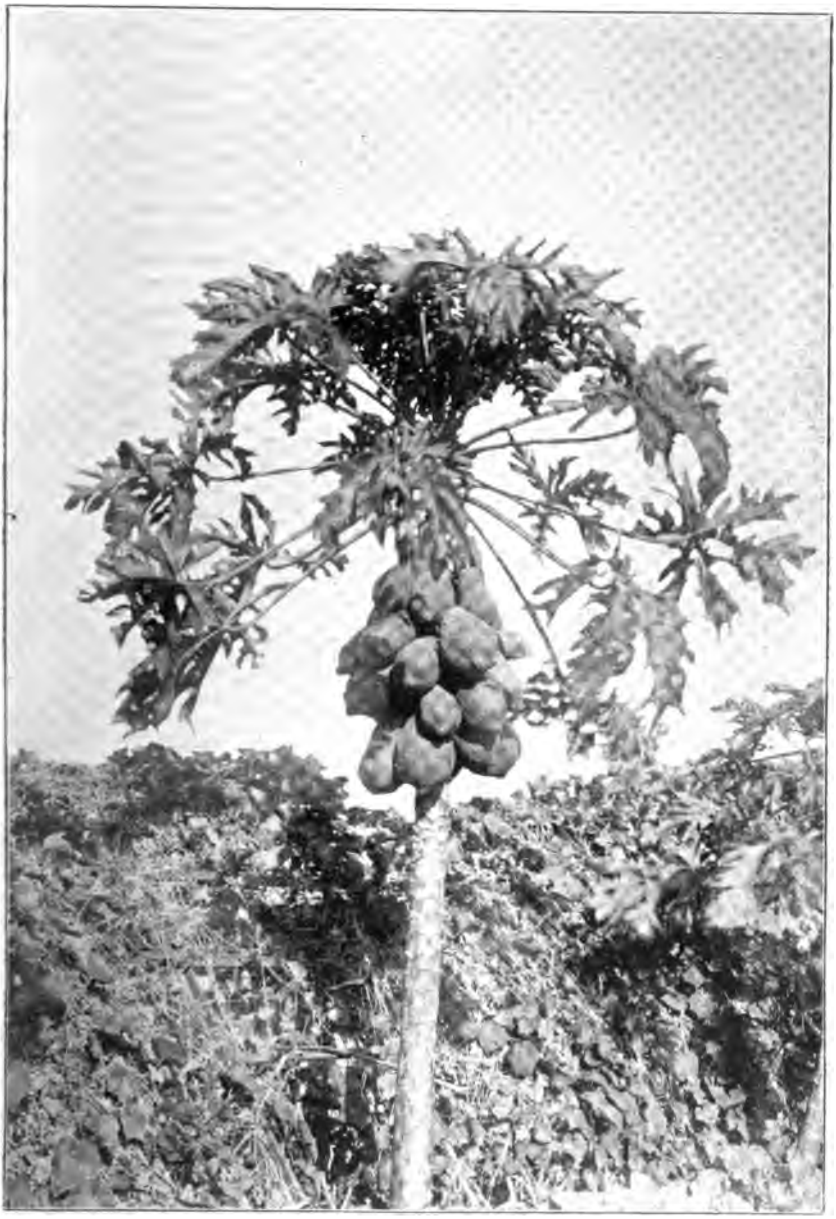
This is the native and natural form, called *Papaya los Pajaros* or "Bird Papaya" by the Spaniards, and Chich Put or "Little Papaya" by the Mayas. The fruit of this form is small, about one inch in diameter, nearly globular and not edible.

C. Papaya, Linn. (Cultivated) (Plate IV.) *Papaya*. **PUT.**
Commonly cultivated throughout the Peninsula, and on the Island of Cozumel, producing large pear-shaped fruit from 12 to 16 inches long and 6 to 9 inches in diameter at the larger end. The pulp is of an orange-salmon color, rich, juicy and delicious. Izamal, Jan. 13, 1895 (**69**).

The flavor of the fruit here, is said to be largely dependent upon the quantity of seed in the individual, those having but few seeds being far finer in every feature than those having many. It is also said that in raising Papayas from the seed in this locality selection plays no part, as the result can not be known until the plant bears its fruit; some of the seeds will revert to the original of the species (*Papaya los Pajaros*) while others will produce excellent Papayas.



CARICA PAPAYA, Linn.
(*Natural.*)



CARICA PAPAYA, Linn.
(*Cultivated.*)

JACARATIA, Marcgr.

J. Mexicana, DC. *Bonete,* **KUMCHÉ.**

A large tree 15 to 40 feet high, abundant between Merida and Izamal. A few individuals in flower at Izamal, Jan. 15, 1895 (**96.**)

The somewhat triangular fruit, called Bonete, has a yellow mawkish pulp, which is usually eaten in a sort of custard.

LOASACEAE.

GRONOVIA, Linn.

G. scandens, Linn. **LAL-MUCH.**

Extensively trailing over the campo about the ruins of Chichen Itza, Jan. 18, 1895 (**128**).

CACTACEAE.

CEREUS, Haw.

C. flagelliformis (Linn.) Mill. **CANCHOH.**

Island of Mugeres on the south-western coast rocks. Between Tuncas and Mascab Pixoy, and at Chichen Itza.

C. grandiflorus (Linn.) Haw. *Pitaya.*

Plentiful on the Islands of Mugeres and Cozumel. Between Tuncas and Chichen Itza.

C. ———— sp. (Hemsley).

On trees, Island of Cozumel (*Gaumer,* 1885). An *C. nycticalus* or *C. MacDonaldiæ*? Hemsley.

OPUNTIA, Adans.

O. Tuna (Linn.) Mill. *Tuna, Nopal.* **PAKAN.**

Cactus Opuntia, Linn. A large patch on the south point of the Island of Mugeres, bearing the largest and finest fruits that I have ever seen. In fruit Jan. 2, 1895. Frequent on the mainland, especially between Progreso and Merida.

LYTHRACEAE.

LAWSONIA, Linn.

L. alba, Lam.

Yucatan loc. ignot. (*Johnson*). Island of Cozumel (*Gaumer,* 1885). Of this species Hemsley says: "Introduced from the Old World."

RHIZOPHORACEAE.

RHIZOPHORA, Linn.

R. Mangle, Linn. **TAPCHÉ.**

Plentiful about the Lagoona Colombia, Island of Cozumel, where it forms many small "islands." Plentiful at the north-west end of the Island of Cankun, about which are also many "islands" composed entirely of this species. Island of Holbox (*Gaumer,* 1886).

MYRTACEAE.

PSIDIUM, Linn.

P. Guajava, Linn. *Guayabo*, **PICHI.**
Island of Cozumel (*Gaumer*, 1885). Cultivated at Merida, Izamal, and Tuncas.

PIMENTA, Lindl.

P. vulgaris, Wight.
Myrtus Pimenta, Linn. Beautiful large specimens in cultivation in the Cenote de Cafetal, Chichen Itza.

EUGENIA, Linn.

E. ——— sp. nov.? Hemsl.
Island of Cozumel (*Gaumer*, 1885). "Quite different from anything in the Kew Herbarium." Hemsley.

COMBRETACEAE.

BUCERAS, P. Br.

B. Catappa (Linn.) Hitch.
Terminalia Catappa, Linn. Island of Cozumel (*Gaumer*, 1885).

CONOCARPUS, Linn.

C. erecta, Linn.
Island of Cozumel (*Gaumer*, 1885). Island of Holbox (*Gaumer*, 1886).

MELASTOMACEAE.

TIBOUCHINA, Aubl.

T. longifolia (Vahl.)
Rhexia longifolia, Vahl. *Pleroma longifolia*, Hemsl. Yucatan loc. ignot. (*Johnson*).

CONOSTEGIA, G. Don.

C. Xalapensis (Bonpl.) G. Don.
Melastoma Xalapensis, Bonpl. Yucatan, loc. ignot. (*Johnson*).

CLIDEMIA, G. Don.

C. petiolaris, Schl.
Yucatan, loc. ignot. (*Johnson*).

MYRSINACEAE.

JACQUINIA, Linn.

J. Caracasana, H.B.K.
Island of Cozumel (*Gaumer*, 1885).

J. aristata, Jacq.
Island of Cozumel (*Gaumer*, 1885). Island of Holbox (*Gaumer*, 1886).

PARATHESIS, Hook f.

P. crenulata, Hook f.
Yucatan, loc. ignot. (*Johnson*).

PLUMBAGINEAE.

PLUMBAGO, Linn.

P. scandens, Linn.
Base of smaller mound, Izamal, Jan. 14, 1895 (**84**).

SAPOTACEAE.

ACHRAS, Linn.

A. Sapota, Linn. *Sapote.* **TAUCH. YA.**
Widely cultivated for its delicious fruit, which also yield, on puncture, the finest of the Yucatan Gum or "*Chicle.*" Also natural to many parts of the Peninsula, particularly in the eastern section where it is abundant and often reaches a growth of 50 to 100 feet in height.
Merida, Izamal, Yucatan loc. ignot. (*Linden*).

BUMELIA, Sw.

B. retusa, Sw. var? (Hemsl.)
Island of Cozumel (*Gaumer*, 1885). Island of Mugeres (*Gaumer*, 1886).

LUCUMA, Molina.

L. mammosa, Gaertn. **CHACHAL HAAS.**
A large and beautiful tree, cultivated for its fine fruit the *Mamey Colorado.* The large seed has a powerful amygdalous odor.
Izamal, Merida, Tuncas, Chichen Itza.

GENTIANACEAE.

EUSTOMA, Don.

E. exaltatum (Linn). Griseb.
Gentiana exaltata, Linn. Island of Cozumel (*Gaumer*, 1885). Island of Holbox (*Gaumer*, 1886).

APOCYNACEAE.

VALLESIA, R. & Pav.

V. glabra, Cav.
Island of Mugeres (*Gaumer*, 1886).

RAUWOLFIA, Linn.

R. heterophylla, Roem & Sch.
Yucatan loc. ignot. (*Johnson*).

THEVETIA, Linn.

T. nitida, A. DC.
Yucatan loc. ignot. (*Johnson*).

T. neriifolia, Juss.
Island of Cozumel (*Gaumer*, 1885 and 1886).

T. Gaumeri, Hemsl.
Type locality, Island of Cozumel (*Gaumer*, 1885), "Tree 40 to 60 feet high; not common."

PLUMERIA, Linn.

P. alba, Linn. **SABACNICTÉ.**
Suburbs of Merida, frequent May, 1887.

TABERNAEMONTANA, Linn.

T. amygdalifolia, Jacq. **UOUPEK.**
Along the road to Valladolid beyond Tuncas. Not in flower, Jan. 17, 1895.

T. Acapulcensis, Miers.
Island of Cozumel (*Gaumer*, 1885).

ASCLEPIADACEAE.

PHILIBERTIA, H. B. K.

P. Lindeniana (Decne). Hemsl.
Sarcostemma Lindenianum, Decne. Yucatan type loc. ignot. (*Linden*).

MACROSCEPIS, H. B. K.

M. rotata, Decne.
Yucatan, type loc. ignot. (*Linden*).

ASCLEPIAS, Linn.

A. curassavica, Linn. **CUCHILXIU.**
Along the railroad, at the station of Ouan, Jan. 24, 1895 (**195**), fruits only. Island of Cozumel (*Gaumer*, 1885).

A. pratensis, Benth.
Along the railroad, at the station of Acalchen, Jan. 24, 1895 (**193**). Differs from the description in having roughly pubescent leaves, especially on the veins above and beneath.

METASTELMA, R. Br.

M. parviflorum (Sw.) R. Br.
Cynanchum parviflorum, Sw. Islands of Mugeres and Holbox (*Gaumer*, 1886).

ENSLENIA, Nutt.

E. racemosa (Jacq)
Cynanchum racemosum, Jacq. *Roulinia Jacquini*, Decne. Yucatan, loc. ignot. (*Linden*).

MARSDENIA, R. Br.

M. maculata, Hook.
Island of Cozumel (*Gaumer*, 1885).

CONVOLVULACEAE.

EVOLVULUS, Linn.

E. nummularius (Linn.) Linn.
Yucatan, loc. ignot. (*Johnson*).

IPOMOEA, Linn.

I. Pes-caprae (Linn.) Sweet.
Convolvulus Pes-caprae, Linn. Island of Cozumel (*Gaumer*, 1885). "Sometimes attains an hundred feet in length."

I. triloba, Linn.
Island of Cozumel (*Gaumer*, 1886).

I. sidaefolia, Linn.
Island of Cozumel (*Gaumer*, 1886).

I. coccinea, Linn.
Island of Cozumel (*Gaumer*, 1886).

I. Jalapa, (Linn.) Pursh.
In the more open woods, Mascab Pixoy, Jan. 22, 1895 (**148**).

I. Bona-nox, Linn. *Oracion.* **XUTU.**
Climbing over the highest shrubs among the ruins, Chichen Itza, Jan. 20, 1895 (**138** and **123**). In our specimens the calyx is one-eighth the length of the tube of the corolla. Island of Cozumel (*Gaumer*, 1885).

I. puncticulata, Benth.
Completely covering an old well house, base of the Cerro Grande, Izamal, Jan. 13, 1895 (**67**).

I. Jamaicensis (Spreng.) Don.
Convolvulus Jamaicensis, Spreng. Island of Cozumel (*Gaumer*, 1885 and 1886).

I. fastigiata, Sweet
Island of Cozumel (*Gaumer*, 1886). Open woods Mascab Pixoy, Jan. 22, 1895 (**147**).

JACQUEMONTIA, Choisy.

J. pentantha (Jacq.) Don. *Sombaritas azul.* **AK-IXIU.**
Convolvulus pentanthos, Jacq. *Jacquemontia violacea* (Vahl) Choisy. Island of Cozumel (*Gaumer*, 1885 and 1886), open woods near the Cenote of Ix-kil, Chichen Itza, Jan. 20, 1895 (**142**) Mascab Pixoy, Jan. 22, 1895 (**145**).

CONVOLVULUS, Linn.

C. Jamaicensis, Jacq.
Higher banks of the coast, above the clear sand beach, Progreso, Jan. 24, 1895 (**208**). The ovate-lanceolate leaved form.

CUSCUTA, Linn.

C. Americana, Linn.
On weeds in an old Milpa southern end of the Island of Cankun, Jan. 3, 1895. Island of Cozumel (*Gaumer*, 1885 and 1886).

HYDROPHYLLACEAE.

HYDROLEA, Linn.

H. glabra, Choisy.
Yucatan, loc. ignot. (*Johnson*).

NAMA, Linn.

N. Jamaicensis, Linn.
Island of Cozumel (*Gaumer*, 1886).

ASPERIFOLIACEAE.

CORDIA, Linn.

C. dodecandra, DC. *Ciricote*. **COPTÉ.**
Common in gardens. Merida, Progreso, Izamal, and San Miguel, Island of Cozumel; where it is cultivated for its edible fruit. Izamal, Jan. 13, 1895 (**74**). Yucatan, loc. ignot. (*Johnson*). Island of Cozumel (*Gaumer*, 1885).

C. Sebestana, Jacq. *Anachuita.*
Cordia speciosa, R & S. Cultivated at Dolores, Island of Mugeres, for its edible fruit and beautiful flowers. In flower Jan. 3, 1895 (**29**). Also collected here by Dr. Gaumer in 1886.

C. gerascanthoides, Kth. **HABEEM.**
Cordia gerascanthus, Sw. (non Jacq.). A beautiful tree 10 to 30 feet high, with a profusion of pinkish-white flowers. Plentiful about Izamal, especially on the road to Tepakaam, Jan. 15, 1895 (**89**) Island of Mugeres (*Gaumer*, 1886).

C. globosa (Linn.) H.B.K., var. ?
Varronia globosa, Linn. Island of Cozumel (*Gaumer*, 1885).

EHRETIA, Linn.

E. tinifolia, Linn.
Yucatan, loc. ignot. (*Grisebach*).

TOURNEFORTIA, Linn.

T. gnaphalodes (Jacq.) R. Br.
Heliotropium gnaphalodes, Jacq. The principal growth at the inner margin of all the sandy beaches of the Island of Mugeres, North Point, Jan. 1, 1895, (**12**); also collected here by Dr. Gaumer in 1886. Same position at Progreso, and the Island of Cankun.

T. volubilis, Linn.
Island of Mugeres (*Gaumer*, 1886).

HELIOTROPIUM, Linn.

H. inundatum, Sw. **NEMAX.**
Yucatan, loc. ignot. (*Johnson*). Island of Cozumel (*Gaumer*, 1885).

H. parviflorum, Linn. *Rabo de Mico.* **XNA-MAX.**
Campo about Merida, May, 1887. Campo at Chichen Itza, Jan. 18, 1895 (**117**). Yucatan, loc. ignot. (*Johnson*). Island of Cozumel (*Gaumer*, 1885).

VERBENACEAE.

LANTANA, Linn.

L. odorata, Linn.
On rocks inland a few rods from the beach sands, shrubby but kept closely cropped by herbivorous animals. North Point, Island of Mugeres, Jan. 1, 1895 (**10**). Islands of Holbox and Mugeres (*Gaumer*, 1886).

L. Camara, Linn.
Island of Cozumel (*Gaumer*, 1885).

L. involucrata, Linn.
Island of Cozumel (*Gaumer*, 1885).

BOUCHEA, Cham.

B. prismatica (Linn) O. K.
Verbena prismatica, Linn. *Bouchea Ehrenbergii*, Cham. Yucatan, loc. ignot. (*Linden*).

VALERIANODES, Boerh.

E. Jamaicense (Linn) Boerh.
Verbena Jamaicensis, Linn. *Stachytarpheta Jamaicensis*, Vahl. Island of Cozumel (*Gaumer*, 1885). Island of Mugeres (*Gaumer*, 1886).

PRIVA, Adans.

P. lappulacea, (Linn) Pers.
Verbena lappulacea Linn. *Priva echinata*, Juss. Island of Cozumel (*Gaumer*, 1885 and 1886).

PETREA, Linn.

P. volubilis, Jacq. ?
Yucatan, loc. ignot. (*Johnson*).

DURANTA, Linn.

D. repens, Linn.
Duranta Plumieri, Jacq. Island of Cozumel (*Gaumer*, 1885).

VOLKAMERIA, Linn.

V. ligustrina (R. Br.) Jacq.
Clerodendron ligustrinum, R. Br. Yucatan, loc. ignot. (*Johnson*).

LIPPIA, Linn.

L. origanioides, H. B. K.
Yucatan, loc. ignot. (*Johnson*).

L. nodiflora (Linn) Michx.
Verbena nodiflora, Linn. Island of Cozumel along the road to Cedral, Jan. 5, 1895; also at Lagoona Colombia, Jan. 7. Collected here by Dr. Gaumer in 1885, and on the Island of Holbox in 1886.

L. stoechadifolia (Linn.) H.B.K.
Verbena stoechadifolia, Linn. Island of Cozumel (*Gaumer*, 1885). "Not common."

L. ——— sp. (Hemsl.)
Island of Mugeres (*Gaumer*, 1886).

CALLICARPA, Linn.

C. acuminata, H.B.K., var.? (Hemsl.)
Island of Cozumel, (*Gaumer* 1885).

AVICENNIA, Linn.

A. officinalis, Linn.
A. tomentosa, Jacq. Island of Cozumel (*Gaumer*, 1885).

A. nitida, Jacq.
Island of Holbox (*Gaumer*, 1886).

LABIATEAE.

HYPTIS, Jacq.

H. capitata, Jacq.
Yucatan, loc. ignot. (*Johnson*).

H. pectinata, Poit.
Island of Cozumel (*Gaumer*, 1886).

CLINOPODIUM, Linn.

C. Brownei, (Sw.) O.K.

Thymus Brownei, Sw. *Micromeria Brownei*, Benth. In moist soil of a pathway, road to Cedral, Island of Cozumel, Jan. 5, 1895 (**39**). Has the odor of Pennyroyal.

Forma calyce angustiore, Hemsl.

Island of Cozumel (*Gaumer*, 1885).

SALVIA, Linn.

S. occidentalis, Sw. **CAK-NEP.**

Our specimens of the form having mucronate calyx lobes (*S. obscura*, Benth.) Streets of Dolores, Island of Mugeres, Jan. 1, 1895 (**18**). Road to Tepakaam near Izamal, Jan. 14, 1895 (**90**): Being greatly interested in the similitude of the Maya name Kak-Nep to our Catnep, I finally, upon inquiry, traced it to derivation from a gentleman of New Orleans who visited the Island of Mugeres early in this century; he called the attention of the Indians to the plant saying that it was catnep and very useful in decoction for fever.

S. coccinea, Linn. f. **ƆIC-XIU.**

This brilliant flowered species is nowhere common, but may be met with here and there throughout the Peninsula. Cerro Grande, Izamal, Jan. 13, 1895. Campo about Chichen Itza, Jan. 18, 1895 (**116**).

S. serotina, Linn.

Island of Cozumel (*Gaumer*, 1885). Island of Mugeres (*Gaumer*, 1886).

TEUCRIUM, Linn.

T. inflatum, Sw.

Along the railroad at Tecantun, Jan. 24, 1895 (**190**), erect ½ to 2½ feet high.

SOLANACEAE.

LYCIUM, Linn.

L. ————sp. (Hemsl.)

Island of Holbox (*Gaumer*, 1886). "Near *L. barbinodum*, Miers. Hemsley."

CAPSICUM, Linn.

C. baccatum, Linn.

Island of Cozumel (*Gaumer*, 1885).

C. frutescens, Linn.

Island of Cozumel (*Gaumer*, 1886).

SOLANUM, Linn.

S. torvum, Sw.
Yucatan, loc. ignot. (*Johnson*).

S. ——— sp. (Hemsl.)
Island of Holbox (*Gaumer*, 1886).

S. Havanense, Jacq. *Yerba mora.* **BA-HA-KAN.**
This shrubby form is quite plentiful about the ruins at Chichen Itza, Jan. 18, 1895 (**120**).

S. verbascifolium, Linn. **TOM-PAAP.**
Among the rocks of the beach, South Point, Island of Mugeres, Jan. 2, 1895 (**25**). Island of Cozumel (*Gaumer*, 1885 and 1886). About the ruined Monjas, Chichen Itza, Jan. 22, 1895 (**140**).

S. nigrum, Linn., var. (Hemsl.)
Island of Cozumel (*Gaumer*, 1885). Island of Mugeres (Gaumer, 1886).

S. Amazonium, Ker.
Island of Cozumel (*Gaumer*, 1885). Along the Tepakaam road near Izamal, Jan. 15, 1895 (**98**).

S. Humboldtii, Willd. **ZUNUMBAK.**
Lycopersicum Humboldtii, Dun. Plentiful about the ruins Chichen Itza, Jan. 20, 1895 (**141**).

DATURA, Linn.

D. Stramonium, Linn. *Chamico.* **XTOHCU.**
Found only near dwellings. Island of Cozumel at Cedral. Waste grounds at Merida, and Mascab Pixoy, Jan. 22, 1895 (**146**). Island of Cozumel (*Gaumer*, 1885).

CESTRUM, Linn.

C. diurnum, Linn.?
Island of Cozumel (*Gaumer*, 1885).

SCROPHULARIACEAE.

RUSSELIA, Jacq.

R. sarmentosa, Jacq.
Island of Cozumel (*Gaumer*, 1885).

MONNIERA, P. Br.

M. Monniera (Linn.) Britton.
Gratiola Monniera, Linn. *Herpestis Monniera*, H.B.K. Island of Cozumel (*Gaumer*, 1885).

M. procumbens (Mill.)
Erinus procumbens, Mill. *Herpestis chamaedryoides*, H.B.K. Island of Cozumel (*Gaumer*, 1885).

CAPRARIA, Linn.

C. biflora, Linn.
Island of Cozumel (*Gaumer*, 1885). Islands of Mugeres and Holbox (*Gaumer*, 1886).

C. biflora pilosa, Griseb. *Clondioso.*
Campo about the ruins, Chichen Itza, Jan 18, 1895, (**118** and **119**).
My **118** agrees with the specimens collected on Fortune and Watling's Islands by Mr. A. S. Hitchcock; and my **119** with those collected by him on the Island of Inagua.

BUECHNERA, Linn.

B. Mexicana, Hemsl. **KABA-CHÉ-CHÉ-BÉ.**
Plentiful in the grass bordering the path at the base of the Great Pyramid, Chichen Itza, Jan. 17, 1895 (**104**).

BIGNONIACEAE.

BIGNONIA, Linn.

B. ——— sp. (Hemsl.)
Island of Cozumel (*Gaumer*, 1885). "Vine 10 to 30 feet; not abundant. No fruit, and only imperfect leaves." Hemsley.

B ——— sp. (Hemsl.)
Island of Cozumel (*Gaumer*, 1885). "Vine 10 to 100 feet; no fruit, and but imperfect leaves." Hemsley.

TECOMA, Linn.

T. stans (Linn.) Juss. *Flor Amarillo.* **XKANLOL.**
Bignonia stans, Linn. On the summit of the Cerro Grande Izamal, Jan. 13, 1895 (**55**), in flower and fruit. At the foot of the Great Pyramid, Chichen Itza, Jan. 18, 1895 (**124**), 6 to 8 feet high.

CRESCENTIA, Linn.

C. Cujete, Linn. *Cujete.* **LUCH.**
One specimen only of this tree observed, that at Mascab Pixoy. It was out of season both as to flower and fruit.

PARMENTIERA, DC.

P. edulis (Mocq.) DC. *Pepina.*
Cultivated ? Street in Dolores, Island of Mugeres, Jan. 2, 1895 (**30**). A small umbrageous tree 15 to 25 feet high, with a strict cylindrical trunk. Fruits 6 to 10 inches long.

PEDALIACEAE.

MARTYNIA, Linn.

M. diandra, Glox.
Martynia angulosa, Lam. Yucatan, loc. ignot. (*Johnson*).

ACANTHACEAE.

TUBIFLORA, Gm.

T. squamosa (Jacq.) O.K.
Verbena squamosa, Jacq., *Elytraria tridentata*, Vahl. Campo about Izamal, Jan. 23, 1895 (**188**).

RUELLIA, Linn.

R. paniculata, Linn. . **KABAUCHÉ, ƆAKALBAK.**
A low straggling shrub. On the slopes of the Cerro Grande Izamal, Jan. 13, 1885 (**57**). Margin of the scrub along the Tepakaam road near Izamal, Jan. 14, 1895 (**93**). Campo about the ruins Chichen Itza, Jan. 17, 1895 (**105** and **139**).

The Maya Ɔakalbak is applied to all Ruellias of this form, the word Kabauché meaning really nothing more distinctive than "a small bush."

BLECHUM, P. Br.

B. Brownei, Juss.
Campo about Izamal, Jan. 23, 1895 (**171**).

B. Brownei *var.* (Hemsl.)
Island of Cozumel (*Gaumer* 1885).

BRAVAISIA, DC.

B. tubiflora, Hemsl.
Type locality, Island of Cozumel (*Gaumer* 52, 1885); "Tree 25 feet; not abundant." Higher banks of sea shore Progreso, Jan. 26, 1895 (**206**). Low shrub, flowers white with a tinge of purple, lower lip purple, throat yellow, buds yellowish white.

APHELANDRA, R. Br.

A. pectinata, Nees.
Shrub 15 feet high. Tepakaam road near Izamal, Jan. 14, 1895 (**91**).

DIAPEDIUM, Koenig.

D. assurgens (Linn). O.K.
Justicia assurgens, Linn. *Dicliptra assurgens* Juss. Yucatan loc. ignot. (*Johnson*.) Island of Cozumel (*Gaumer*, 1885 and 1886).

DIANTHERA, Gronov.

D. comata, Linn.
Yucatan loc. ignot. (*Johnson*).

TETRAMERIUM, Nees.

T. hispidum, Nees.
Edges of Copses, Chal-tun-ha road near Izamal, Jan. 14, 1895 (**78**).

T. costatum (Gray).
Henrya costata Gray. Among the rocks on the Cerro Grande Izamal, Jan. 13, 1895 (**65**).

DIANTHERA, Gronov.

D. sessilis, Griseb.
In the scrub along the Chal-tun-ha road near Izamal, Jan. 14, 1895 (**79**).

PLANTAGINACEAE.

PLANTAGO, Linn.

P. major, Linn.
Island of Cozumel (*Gaumer*, 1885).

RUBIACEAE.

RACHICALLIS, DC.

R. Americana (Jacq.) O. K.
Hedysotis Americana, Jacq. *Rachicallis rupestris* (Sw.) DC. Island of Cozumel (*Gaumer*, 1885).

RONDELETIA, Linn.

R. stenosiphon, Hemsl.
Yucatan, loc. ignot. (*Johnson*).

COUTAREA, Aubl.

C. octomera, Hemsl.
Type locality, Island of Cozumel (*Gaumer*, 1885). "Very rare shrub, flowers greenish-yellow."

RANDIA, Linn.

R. aculeata, Linn.
Island of Cozumel (*Gaumer*, 1885).

R. latifolia, Linn.
Island of Cozumel (*Gaumer*, 1885).

R. ? longiloba, Hemsl.
Type locality, Island of Cozumel (*Gaumer*, 1885). "Tree 25 feet; very common and very aromatic."

HAMELIA, Jacq.

H. patens, Jacq. **XKAN-NAN.**
Shrub 6 to 8 feet high, growing upon the lower terrace of the ruined Monjas, Chichen Itza, Jan. 1895 (**122**). Island of Cozumel (*Gaumer*, 1885 and 1886).

H. chrysantha, Sw.
Along the roadside near Cedral, Island or Cozumel, Jan. 5, 1895 (**41**).

GUETTARDA, Linn.

G. scabra (Linn.) Lam.
Mathiola scabra, Linn. Yucatan, loc. ignot. (*Linden*).

MACHAONIA, Humb. & Bonpl.

M. Lindeniana, Baill.
Yucatan, type loc. ignot. (*Linden*).

ERITHALIS, P. Br.

E. fruticosa, Linn.
A low shrub, 4 to 5 feet high, forming a part of the general littoral growth at the margin of the sandy beach, North Point, Island of Mugeres, Jan. 2, 1895 (**27**). Islands of Holbox and Mugeres (*Gaumer*, 1886).

CHIOCOCCA, P. Br.

C. racemosa, Jacq.
Island of Cozumel (*Gaumer*, 1885), "varietates." Hemsl.

ASEMNANTHA, Hook f.

A. pubescens, Hook f.
Humid forests, loc. ignot. (*Linden*).

STRUMPFIA, Jacq.

S. maritima, Jacq.
Island of Mugeres, on the higher reef rocks almost in constant spray, Jan. 1, 1895 (**11**). Collected here also by Dr. Gaumer in 1886.

A low, spreading, shrubby growth resembling a Juniper or a frutescent Erica. This species seems to have reached this Island from the Bahamas without, as far as I can learn, finding a foothold upon any of the intervening islands.

COUSSAREA, Aubl.

C. speciosa, Aubl. ?
Yucatan, loc. ignot. (*Linden*).

MORINDA, Linn.

M. Royoc, Linn.

Island of Cozumel (*Gaumer*, 1885). "A littoral bush 1 to 3 feet; abundant."

ERNODEA, Sw.

E. littoralis, Sw.

On the higher beach above the clear beach sands, Progreso, Jan. 26, 1895 (**207**).

Shrubby. Flower tube deep brownish lake externally, white within corolla, teeth sharply recurved.

Island of Cozumel (*Gaumer*, 1885). "Bush 1 to 3 feet; abundant" Islands of Holbox and Mugeres (*Gaumer*, 1886).

BORRERIA, G. F. W. Mey.

B. thymifolia, Griseb.

On the Cerro Grande, Izamal, Jan. 13, 1895 (**63**).

SPERMACOCE, Linn.

S. laevis, Lam.

Yucatan, loc. ignot. (*Johnson*).

S. verticillata, Sw.

Island of Holbox (*Gaumer*, 1886).

S. teunior, Lam (not Linn.)

Campo at Izamal, Jan 23, 1895 (**183**). Island of Cozumel (*Gaumer*, 1885 and 1886).

S. Haenkeana, Hemsl. *Flor de Manzanillo do Campo.*

Campo about the ruins, Chichen Itza, Jan. 17, 1895 (**113**). My specimens agree with Pringle's 2453 from Jalisco, except that the glomerules of mine are somewhat smaller.

The Mayas claim that this form has severe ptarmacoid properties.

TRIODON, DC

T. angulatum, Benth.

Yucatan, loc. ignot. (*Johnson*).

CAPRIFOLIACEAE.

SAMBUCUS, Linn.

S. Mexicana, Presl.

About the ruins at the southern end of the Island of Cankun, Jan. 3, 1895, not in bloom. Island of Cozumel (*Gaumer*, 1885).

CUCURBITACEAE.

MELOTHRIA, Linn.

M. pendula, Linn. **XTULU**.

About the ruined Monjas, Chichen Itza, Jan. 17, 1895 (**109** and **110**). Very young but in flower.

The Maya name Xtulu "Little Watermelon" is applied to various cucurbits.

SICYDIUM, Schlecht.

S. tamnifolium, (Poir.) Cogn.

At Tiop, (*Linden*). Yucatan, loc. ignot. (*Schott.*)

S. ——— sp.? (Hemsl.)

Island of Cozumel (*Gaumer*, 1885). "Vine 15 feet; rare. Foliage and male flowers only." Hemsley.

MOMORDICA, Linn.

M. Charantia, Linn.

Island of Cozumel (*Gaumer*, 1885).

LUFFA, Linn.

L. cylindrica (Linn.) Roem.

Momordica cylindrica, Linn. Yucatan, loc. ignot. (*Schott*).

CAYAPONIA, Manso.

C. alata, Cogn.

Type locality, the Hacienda Sara-Grossa (Schott).

C. grandiflora, Cogn.

Type locality, Picul (*Schott*).

CAMPANULACEAE.

ISOTOMA, Lindl.

I. longiflora (Linn.) Presl.

Lobelia longiflora, Linn. Island of Cozumel (*Gaumer*, 1885). "Not common."

GOODENIACEAE.

SCAEVOLA, Linn.

S. Plumieri (Linn.) Vahl.

Lobelia Plumieri, Linn. Islands of Holbox and Mugeres (*Gaumer*, 1886).

COMPOSITAE.*

VERNONIA, Schreb.

V. lanceolaris, DC.

Yucatan, loc. ignot. (*Johnson*).

V. Schiedeana, Less.

Yucatan, loc. ignot. (*Johnson*).

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* My numbers were kindly determined by Professor J. M. Coulter.

OLIGANTHES, Cass.

O. oxylepis, Benth & Hook.
Yucatan, loc. ignot. (*Johnson*).

ALOMIA, H.B.K.

A. ageratoides, H.B.K. ?
Ethulia ageratoides, Spreng. Island of Cozumel (*Gaumer*, 1885). "Differs from the next species only in having white flowers and epappose achenes." Hemsley.

AGERATUM, Linn.

A. intermedium, Hemsl.
Type locality, Island of Cozumel (*Gaumer*, 1885). "Abundant."

A. corymbosum, Zucc.
Campo about Izamal, Jan. 13, 1895, (**72**).

EUPATORIUM, Linn.

E. odoratum, Linn.
Yucatan, loc. ignot. (*Johnson*).

E. ——— sp. (Hemsley).
Island of Cozumel (*Gaumer*, 1885). "Rare, flowers white tinged with dull yellow."

Professor Hemsley says: "This agrees with a specimen from Yucatan and Tabasco (Torrey 1850) together with which it may be or may not be an undescribed species." The Yucatan and Tabasco species is doubtless one of the Johnson collection, as Professor Torrey contributed that collection to Kew.

E. populifolium, H.B.K.
Yucatan, loc. ignot. (*Johnson*).

E. paniculatum, Schrad.
Island of Cozumel (*Gaumer*, 1886).

E. ——— sp. (Hemsl.)
Island of Cozumel (*Gaumer*, 1886), "Near E. conyzoides, Vahl."

E. conyzoides, Vahl.
Campo about the ruins, Chichen Itza, Jan. 17, 1895 (**116**).

WILLOUGHBIA, Neck.

W. Houstonis (Linn.) O.K.
Eupatorium Houstonis, Linn. *Mikania Houstonis*, Willd. Yucatan, loc. ignot. (*Johnson*).

CHRYSOPSIS, Nutt.

C. ——— sp.
Roadside near Izamal, Jan. 15, 1895 (**97**). Three feet high, nearly out of flower.

EGLETES, Less.

E. viscosa, Less.
Yucatan, loc. ignot. (*Johnson*).

AMELLUS, P. Br.

A. aspera (Jacq.) O.K.
Calea aspera, Jacq. *Melanthera deltoidea*, Michx. Island of Cozumel (*Gaumer*, 1886).

A. niveus (Linn.) O.K.
Bidens nivea, Linn. *Melanthera hastata*, Rich. On the beach near the Lagoona Colombia, Island of Cozumel, Jan. 7, 1895 (**51**). Island of Cozumel (*Gaumer*, 1885). Yucatan, loc. ignot. (*Johnson*).

ERIGERON, Linn.

E. Canadensis, Linn.
Island of Cozumel (*Gaumer*, 1885).

PLUCHEA, Cass.

P. purpurascens (Sw.) DC.
Conyza purpurascens, Sw. Island of Cozumel (*Gaumer*, 1885).

P. odorata (Linn.) Cass.
Conyza odorata, Linn. Streets of Izamal, Jan. 23, 1895 (**176**). Island of Mugeres (*Gaumer*, 1886).

PARTHENIUM, Linn.

P. Hysterophorus, Linn.
Island of Cozumel (*Gaumer*, 1885 and 1886).

AMBROSIA, Linn.

A. hispida, Pursh.
Ambrosia crithmifolia, DC. Sea shore, Island of Cozumel (*Gaumer*, 1885). "Very Abundant."

BLAINVILLEA, Cass.

B. dichotoma (Murr.) Cass.
Verbesina dichotoma, Murr. Island of Cozumel (*Gaumer*, 1886).

BORRICHIA, Adans.

B. arborescens (Linn). DC.
Buphthalmium arborescens, Linn. Sea shore, Island of Cozumel (*Gaumer*, 1885). "Bushy, 3 feet; abundant." Islands of Mugeres and Holbox (*Gaumer*, 1886).

WEDELIA, Jacq.

W. trilobata (Linn.) Hitch.
Silphium trilobatum, Linn. *Wedelia carnosa*, Pers. Island of Cozumel (*Gaumer*, 1885).

ASPILIA, Thou.

A. ——— sp.
Old clearing near Mascab Pixpy, Jan. 22, 1895 (**154**).

VIGUIERA, Less.

V. helianthoides, H.B.K.
Island of Cozumel (*Gaumer*, 1886).

ELEUTHERANTHERA, Poit.

E. divaricata (Rich.)
Dysodium divaricatum, Rich. *Melampodium divaricatum*, DC. Patio residence of Dr. Gaumer, Izamal, Jan. 13, 1895 (**71**). Island of Cozumel (*Gaumer*, 1885 and 1886).

SPILANTHES, Jacq.

S. repens (Walt.) Michx.
Anthemis repens, Walt. Island of Cozumel, marshy places (*Gaumer*, 1885 and 1886). "Not abundant."

S. beccabunga, DC.
Moist soil of pathway to Cedral, Island of Cozumel, Jan. 5, 1895 (**43**).

HELIANTHELLA, T. & G.

H. ——— sp. **TAH.**
Plentiful in the clearing at the base of the Great Pyramid, Chichen Itza, Jan. 17, 1895 (**103**), 4 to 6 feet high, flowers bright King's yellow.

ZEXMENIA, Llav. & Lex.

Z. trachylepes, Hemsl.
Yucatan, type loc. ignot. (*Johnson*).

SYNEDRELLA, Gaertn.

S. nodiflora, Gaertn.
Campo about Izamal, Jan. 23, 1895 (**185**).

BIDENS, Linn.

B. pilosa, Linn.
Island of Cozumel (*Gaumer*, 1885).

B. Alansensis, H.B.K.
Compo about Izamal, Jan. 23, 1895 (**170**).

CALEA, Linn.

C. ——— sp.
Old clearing near Mascab Pixoy, Jan. 22, 1895 (**153**).

TRIDAX, Linn.

T. procumbens, Linn.
Campo about Izamal, Jan. 23, 1895 (**218**). Yucatan, loc. ignot. (*Linden*). Island of Cozumel (*Gaumer*, 1885).

FLAVERIA, Juss.

F. linearis, Lag.
Island of Cozumel (*Gaumer*, 1885).

F. longifolia, A. Gray.
Island of Holbox (*Gaumer*, 1886).

TAGETES, Linn.

T. tenuifolia, Cav.
Campo about Izamal, Jan. 23, 1895 (**179**).

NEUROLAENA, R. Br.

N. lobata (Linn.) R. Br.
Conyza lobata, Linn. Yucatan, loc. ignot. (*Johnson*).

TRIXIS, P. Br.

T. radialis (Linn.) O.K.
Perdicium radialis, Linn. *Trixis Inula*, Crantz, *Trixis frutescens* R. Br. Apex of the Cerro Grande, Izamal, Jan. 13, 1895 (**56**).

ORDERS.	Genera.	Species.	Mainland.	Insular Species.				Dr. Gaumer.	Author.	Johnson.	Linden.	Schott.
				Cozumel.	Mugeres.	Holbox.	Cankun.					
Acanthaceæ	9	11	10	3	..	..	..	3	8	2	..	..
Amaranthaceæ	6	8	5	2	1	1	..	4	4	1	..	..
Amaryllidaceæ	1	1	1	1	..	..	..	1	..	1	..	..
Anacardiaceæ	3	4	1	4	..	..	..	3	1	1	..	..
Anonaceæ	1	3	2	1	..	..	..	1	2	..	..	..
Apocynaceæ	5	8	4	2	1	..	..	4	2	2	..	..
Araceæ	1	1	1	..	..	..	..	..	1	..	..	..
Aristolochiaceæ	1	1	1	..	..	..	..	..	1	..	..	..
Asclepiadaceæ	6	7	5	2	1	1	..	3	2	..	3	..
Asperifoliaceæ	4	9	6	4	4	..	1	7	5	2	..	..
Bignoniaceæ	4	5	2	2	1	..	..	2	3	..	..	..
Bixaceæ	3	3	3	..	..	..	..	..	2	1	..	..
Bombacaceæ	3	5	5	..	..	..	..	..	4	1	..	..
Bromeliaceæ	5	8	6	1	..	1	..	1	2	3	..	3
Burseraceæ	1	1	1	1	1	..	..	..	1	..	..	..
Cactaceæ	2	4	1	2	3	..	..	1	3	..	..	..
Campanulaceæ	1	1	..	1	..	..	..	1	..	..	..	..
Cannaceæ	1	1	..	1	..	..	..	1	..	..	..	..
Capparidaceæ	2	2	2	..	..	..	..	..	1	..	1	..
Caprifoliaceæ	1	1	..	1	..	..	1	1	1	..	..	..
Caricaceæ	2	2	2	1	1	..	1	1	2	..	..	..
Casuarinaceæ	1	1	1	1	1	..	1	..	1	..	..	..
Celastraceæ	2	2	..	1	1	..	..	2	..	..	..	..
Chenopodiaceæ	2	2	..	..	..	2	..	2	..	..	..	..
Combretaceæ	2	2	..	2	..	1	..	2	..	..	..	..
Commelynaceæ	2	3	1	2	1	..	..	2	..	..	..	1
Compositæ	30	42	24	21	2	2	..	22	15	11	..	..
Convolvulaceæ	5	13	7	9	..	..	1	9	7	1	..	..
Crassulaceæ	1	1	1	..	..	..	..	..	1	..	..	..
Cruciferæ	1	1	1	1	1	..	..	1	1	..	..	..
Cucurbitaceæ	5	7	5	1	..	..	..	2	1	..	1	4
Cycadaceæ	1	1	1	..	..	..	..	..	..	..	..	..
Cyperaceæ	2	6	1	3	2	1	..	4	1	..	..	1
Dioscoreaceæ	1	2	1	1	..	..	..	1	..	..	1	..
Euphorbiaceæ	6	22	18	13	5	2	1	11	15	..	1	..
Filices	8	9	4	5	..	..	..	3	6	..	..	..
Gentianaceæ	1	1	..	1	..	1	..	1	..	..	..	..
Goodeniaceæ	1	1	..	..	1	1	..	1	..	..	..	..
Gramineæ	8	11	5	4	1	4	..	5	5	..	1	..
Guttiferæ	1	1	..	1	..	..	..	1	..	..	..	..
Hepaticæ	3	4	2	2	..	..	..	..	4	..	..	..
Hippocrateaceæ	1	1	..	1	..	.	..	1	..	..	..	..
Hydrophyllaceæ	2	2	1	1	..	..	..	1	..	1	..	..
Iridaceæ	1	1	1	..	..	..	..	..	..	..	1	..
Labiateæ	4	7	4	3	2	.	..	3	4	1	..	..
Lauraceæ	3	3	1	1	..	1	..	2	1	..	..	..
Leguminosæ	32	58	31	30	9	..	..	33	18	13	4	..
Liliaceæ	2	2	2	..	..	..	..	..	..	..	..	2
Loasaceæ	1	1	1	..	..	..	..	..	1	..	..	..
Lythraceæ	1	1	1	1	..	..	..	1	..	1	..	..
Malpighiaceæ	5	8	5	3	..	..	..	3	..	4	1	..
Malvaceæ	6	10	8	2	..	..	..	2	7	1	..	..
Melastomaceæ	3	3	3	..	..	..	..	..	..	3	..	..
Meliaceæ	3	4	2	2	..	..	..	2	1	..	1	..
Moraceæ	2	4	4	1	1	..	..	..	4	..	..	..
Musaceæ	1	2	2	2	1	..	2	..	2	..	..	..

ORDERS.	Genera.	Species.	Mainland.	Insular Species.				Dr. Gaumer.	Author.	Johnson.	Linden.	Schott.
				Cozumel.	Mugeres.	Holbox.	Cankun.					
Musci	3	3	2	2	..	..	..	..	3	..	..	..
Myrsinaceæ	2	3	1	2	..	1	..	2	..	1	..	..
Myrtaceæ	3	3	2	1	..	..	..	2	2	..	..	..
Nyctaginaceæ	2	3	3	1	..	..	..	1	3	..	..	..
Nymphaceæ	2	2	2	..	..	..	..	..	1	..	1	..
Orchidaceæ	1	1	1	..	..	..	..	..	1	..	..	..
Palmeæ	3	4	2	3	4	..	3	2	3	..	..	..
Pandaneæ	1	2	2	..	..	..	..	..	2	..	..	..
Papaveraceæ	1	1	1	1	..	..	..	1	1	..	..	..
Passifloraceæ	1	2	..	2	1	..	..	2	..	..	..	..
Pedaliaceæ	1	1	1	..	..	..	..	..	..	1	..	..
Phytolaccaceæ	2	5	3	2	2	..	..	2	1	2	1	..
Piperaceæ	1	1	1	..	..	..	..	..	..	..	1	..
Plantaginaceæ	1	1	..	1	..	..	..	1	..	..	..	..
Plumbaginaceæ	1	1	1	..	..	..	..	..	1	..	..	..
Polygalaceæ	1	1	1	..	..	..	..	..	..	1	..	..
Polygonaceæ	2	3	..	3	1	..	..	3	1	..	..	..
Ranunculaceæ	1	3	3	1	..	..	..	1	1	1	..	1
Rhamnaceæ	1	1	1	..	..	..	..	..	..	..	1	..
Rhizophoraceæ	1	1	..	1	..	1	1	1	1	..	..	..
Rubiaceæ	17	23	12	11	3	3	..	14	8	3	4	..
Rutaceæ	6	9	4	4	2	..	..	4	5	..	..	..
Sapindaceæ	5	7	5	2	..	..	..	2	2	3	1	..
Sapotaceæ	3	3	2	1	1	..	..	1	2	..	..	..
Scrophulariaceæ	4	6	2	4	1	1	..	4	2	..	..	..
Simarubaceæ	2	2	1	1	1	1	..	2	1	..	..	..
Smilaceæ	1	1	..	1	..	..	..	1	..	..	..	..
Solanaceæ	5	12	5	7	2	2	..	9	5	1	..	..
Sterculiaceæ	6	7	5	4	..	..	..	3	3	2	1	..
Tiliaceæ	1	2	2	..	..	..	..	..	..	2	..	..
Urticaceæ	1	1	1	..	..	..	..	..	..	1	..	..
Verbenaceæ	10	16	4	9	3	3	..	12	2	3	1	..
Violaceæ	1	1	1	..	..	..	..	..	..	1	..	..
Vitaceæ	1	2	1	1	..	..	..	1	..	1	..	..
Zygophyllaceæ	1	2	1	1	..	..	..	1	1	..	..	..
Totals: Orders, 91	307	471	264	210	62	30	12	224	192	75	25	12

SUMMARY.

Mainland Flora........................ 264 species.

Insular Flora { Cozumel .... 210 / Sand Islands....... 104 } 314 "

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PUBLICATIONS OF THE MUSEUM.

The series of publications of the Field Columbian Museum, of which this is a number, began with "An Historical and Descriptive Account of the Field Columbian Museum." The numbers that succeed in the series are not restricted either in authorship or subject, if coming within the scope of scientific or technical discussion, and contributive to the high standard it is hoped the publications will maintain. The series includes transactions, memoirs, monographs, bulletins, handbooks, and catalogues of collections.

The publications of the Museum are numbered consecutively, but are also sectional in character. Each series has a separate pagination and volumes. The literature of each science or general subject is in this way rendered consecutive and complete for binding.

PUBLICATIONS ISSUED:

Pub. 1. Hist. Ser., Vol. 1, No. 1. An Historical and Descriptive Account of the Field Columbian Museum.

Pub. 2. Hist. Ser., Vol. 1, No. 2. The Authentic Letters of Columbus. William Eleroy Curtis, Honorary Curator of the Columbus Memorial.

Pub. 3. Geol. Ser., Vol. 1, No. 1. Handbook and Catalogue of the Collection of Meteorites. Oliver C. Farrington, Curator of Geology.

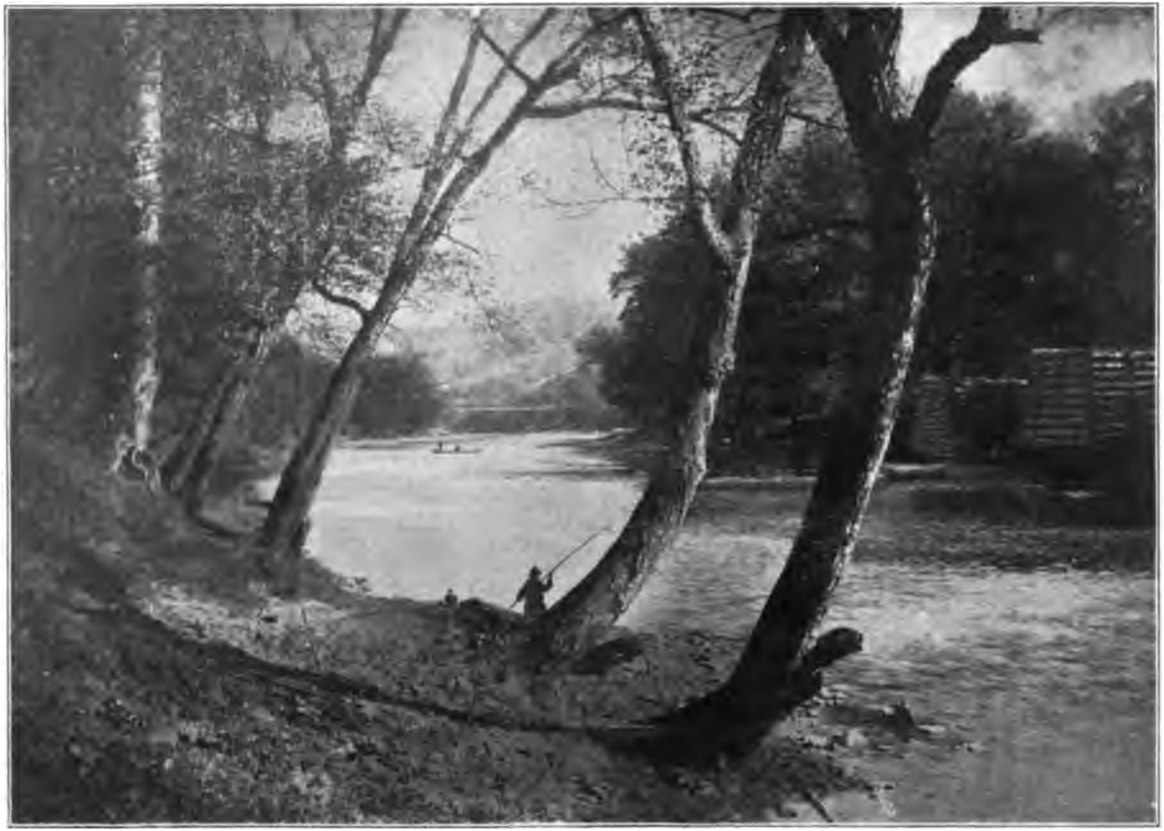
Pub. 4. Bot. Ser., Vol. 1, No. 1. Flora of Yucatan. Charles Frederick Millspaugh, Curator of Botany.

IN PREPARATION:

Anthropol. Ser., Vol. 1, No. 1, Pt. 1. Studies among the Ancient Cities of Mexico. W. H. Holmes, Curator of Anthropology.

Anthropol. Ser., Vol. 1, No. 2, Pt. 2. Studies among the Ancient Cities of Mexico. W. H. Holmes, Curator of Anthropology.

Zool. Ser., Vol. 1, No. 1. Vertebral Column of Amia. O. P. Hay, Assistant Curator of Ichthyology.



RIVER BIRCHES AT SUTTON, W. VIRGINIA.
(*Betula Nigra L.*)

FIELD COLUMBIAN MUSEUM
PUBLICATION 9.

Botanical Series. Vol. 1, No. 2.

FLORA
OF
WEST VIRGINIA

BY

CHARLES FREDERICK MILLSPAUGH,
Curator, Department of Botany,

AND

LAWRENCE WILLIAM NUTTALL

CHICAGO, U. S. A.
January, 1896.

PUBLICATIONS OF THE MUSEUM.

For the convenience of scientific workers it has been deemed expedient to issue the publications of the Museum in separate series for each of the sciences represented. The following series thus far have been established: Historical, Geological, Botanical, Zoölogical, Ornithological and Anthropological.

A consecutive number has been given the entire set of publications to indicate the order of issue. Each departmental series, however, has its own volume number and individual consecutive pagination, making the literature of the science, or general subject, independent and complete for separate binding; or they may be bound in order of publication without relation to subject. Proceedings, memoirs, monographs, bulletins, and hand-books and catalogues of collections, are included within the scope of the publications.

Full lists of the publications of the Museum may be found in the Annual Report of the Director.

Publications are sent to societies and institutions of a public character that reciprocate with their own literature and to a limited number of scientists who are able to exchange.

Two publications have been issued of the Botanical series: Contribution to the Flora of Yucatan (Pub. 4); and The Flora of West Virginia (Pub. 9). Contribution II to the Flora of Yucatan is in preparation.

FREDERICK J. V. SKIFF,
Director.

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The Flora of West Virginia.

BY

C. F. MILLSPAUGH AND L. W. NUTTALL.

The State of West Virginia comprises about 24,780 square miles of territory lying between 37°30′ and 40°30′ north latitude, and 0°45′ and 5°30′ west longitude from Washington. Its outline of varied boundaries has become a synonym for irregularity, as a glance at the accompanying map will show; it might also comprise the topography, suggesting as it does an immense field over which a gigantic plow has left a confused maze of deep and irregular furrows. This topographical condition is mainly due to the great number of mountain ranges and a vast network of rapid streams, that, rising in the higher altitudes of the eastern and southern borders, pass in varied and tortuous courses through the State, to augment the Ohio on the west and northwest, and the Potomac on the northeast.

Along the low, as well as the lofty mountain ranges, there is comparatively little tableland, and in the wedge-like valleys there is a like absence of extensive bottoms, except along Tygart's Valley River in Randolph County, the Great Kanawha and the Ohio. Although there are many mountain glades, some nearly dry and others swampy, plainly indicating their late occupancy by small lakes, there is to-day neither pond nor lake within the limits of the State, and very little if any stagnant water.

As the major portion of the State lies west of the Alleghanies, the prevailing climate is much like that of western Pennsylvania, partaking little indeed of that southern atmosphere that we are wont to associate with the name Virginia.

The prevailing soil of the hills and valleys is stiff clay, and sandy and clayey alluvium, over which there is in general but little loam. The clay of the more open steep hillsides is so unctuous and unstable that frequent landslides occur during Spring, sometimes of great extent. This subsidence renders the valley streams muddy throughout the year. The rocks are principally sandstone and limestone, with some outcroppings of shales on the northeastern heights. The special features of the now very fertile and then quite sterile soils, with the varied differences in altitude, as well as the vast areas of primitive forests, yield a flora of great variety, and often widely differing at points only a few miles apart.

The amount of exploration necessary under such conditions to gain a full knowledge of the flora, becomes an arduous undertaking, though the interest in searching an almost virgin field is so deep as to greatly lighten the labor.

BOTANICAL HISTORY.

The early botanical explorers, Pursh. and Nuttall, found many of their novelties among the eastern mountains of this State, and the old Dutch gardener, Kin, here sought oddities for horticulture, but either on account of their limited knowledge regarding the geography of this section, or from the undeveloped condition of the area they traversed, the localities of their collecting are in most cases but imperfectly detailed. Since their time, with the exception of a few transient botanists who have incidentally worked over the neighborhood of some vacation resort, the work done on the flora may be summarized as follows :

In 1867 and 1871, Dr. A. S. Todd, as chairman of a committee of the Medical Society of West Virginia, published a list of the "Medicinal Plants of West Virginia." This list contains an enumeration of nine trees, seven shrubs and sixty herbs.

In 1870, Mr. DissDebarr, State Commissioner of Immigration, in his "Handbook of West Virginia," compiled a list of the timber trees of the State, in which he enumerated fifty-two species and added twelve species of shrubs.

In 1876, Professor Fontaine in compiling his portion of the Centennial volume upon the "Resources of West Virginia," listed more carefully the forest trees, shrubs and medicinal plants of the State, drawing the last from the publication of Dr. Todd. This work contains an enumeration of sixty-nine trees and sixteen shrubs.

In 1878, Profs. H. N. Mertz and G. Guttenberg manifolded a check list of the "Flora of West Virginia," being an account of work done along the upper Ohio bottoms, and in the mountains of the northeastern portion of the State, the latter while located at Harper's Ferry. This list enumerates fifty-nine trees, thirty-seven shrubs and four hundred ninety-four herbs.

In 1888 and 1889, Miss Verona Mapel, Preceptress of the High School at Glenville, Gilmer County, quite thoroughly worked over her immediate vicinity in connection with her school duties. She reports in manuscript forty-two trees, twenty-three shrubs and two hundred ninety herbs. Her list includes neither the commoner weeds and herbs, nor the grasses and sedges.

In 1890, '91 and '92, the present authors began a systematic survey of the State, publishing the results of their work in 1892 under the title of "A Preliminary Catalogue of the Flora of West Virginia." This catalogue included all known previous work and enumerated 1,645 species, giving localities, numerous critical notes, and descriptions and plates of several new forms.

In 1892, Mr. John K. Small and Miss Anna Murray Vail spent some time in Greenbrier County, exploring the vicinity of White Sulphur Springs. The results of their work are included in their "Report of the Botanical Exploration of Southwestern Virginia," published as one of the Memoirs of the Torrey Botanical Club.

From 1892 to the present, the authors have continued their investigation of the flora, adding the knowledge of over one thousand species to their preliminary list, and detecting many new localities for previously published species. This additional work forms the basis of the present publication. The small edition of the preliminary catalogue having been exhausted within a few months of its issue, and many institutions, libraries and personal workers being unable to secure copies of the work, it has been deemed expedient to include here all the species of that publication, without, however, repeating the body matter. These repeated species appear in small capitals, additional species new to the flora in black-faced type. As in the preliminary catalogue, all species that have been described from known West Virginia types are republished in full.

SPECIAL FEATURES OF THE FLORA.

The distribution of plants within the boundaries of the State is wonderfully comprehensive. Canada places representatives of her boreal flora upon its Alleghanian mountain tops, some that have even passed by the States of New York, New Jersey, Pennsylvania, Delaware and Maryland in the transit; the Southern States contribute to its flora through the influence of the mysterious New River on the southeast; the great trunk lines of railway, as well as the open condition of the western border line along the Ohio River, give entrance to individuals of a migratory character from the Western Plains; and from some not readily accountable reason, Eastern forms, and even coast line species stray within its limits.

Of the noteworthy species we connect in *Anemone trifolia*, L., Canby's and Curtiss' Virginian stations with Knipe's Pennsylvanian, and that in a direct and sequential manner through the State. Our elévations for this species range from 850 to 2,300 feet. *Trautvetteria Carolinensis* (Walt.,) Vail, is to be found along all such mountain rills as are deeply shaded, at altitudes above 1,000 feet. We extend the Manual distribution of *Caltha palustris*, L., southward nearly one degree, by finding it quite plentiful in the mountains of Randolph County, where *Isopyrum trifoliatum* (L.) Britt., keeps it company. *Helleborus viridis*, L., has its most western station on the north branch of the Potomac River, in Hardy County, whence it was first reported to Dr. Gray by Dr. Gamble, of Moorfield. *Aconitum uncinatum*, L., is at home all along the banks of Cheat River, at altitudes varying from 780 to 3,550 feet. Both species of *Actæa* are to be met with on the higher Alleghanies, where *Cimicifuga Americana*, Mx., is the principal representative of the tribe.

Magnolia Fraseri, Walt., is a striking vernal feature of the whole Alleghanian region, while *tripetala* and *acuminata* are common. *Berberis Canadensis*, Mill. becomes a veritable weed in many fields in the southern portion of the State, vying with *Papaver dubium*, L., and *Glaucium Glaucium* (L.), Karst, in the northeastern section. *Bicuculla eximina* (L.), Millsp., we have found only upon the highest peaks of the Alleghanies.

Of the rambling crucifers, *Sisymbrium Thaliana* (L.) Celak, finds a home in Fayette County, and *Lepidium campestre* (L.), R. Br., is the worst and most prevalent weed in the cultivated portions of the northeastern section.

Nearly all the violets lend their beauty to the adornment of the woods and meadows; *Viola pedata, var. bicolor*, Pursh., with flowers as large as the cultivated pansy and fully as beautiful, is frequent among the Devonian shales of the northeast; *Viola primulæfolia*, L., comes in from the coast as far as four degrees ; and *Viola hastata*, Mx., is quite plentiful in the southern section.

Although *Sida hermaphrodita* (L.), Rusby, has not been found in the Alleghanies as yet, it is not at all rare along the New and Great Kanawha Rivers, from Quinnimont to the Ohio, and thence down that river to the limits of the State. *Hibiscus Moscheutos*, L., is found not only along the bottoms of the Great Kanawha, but also in the northeastern part of the State, while *H. Trionum*, L., is a quite common weed in gardens.

All of the native species of *Aesculus*, together with the var. *hybrida* of *octandra*, are found in the State. *Ailanthus glandulosis* is becoming a most troublesome weed in many sections, especially in the northern counties.

Among the Leguminals we have re-discovered *Astragalus Carolinianus*, L., which from our specimens is considered by Professor Britton to be indistinct from *A. Canadensis*, L., and as it has the priority of publication, the latter well-known name becomes a synonym. Another important discovery in this genus is that *A. distortus*, T. and G., habits the Devonian shales of Hardy County, the only station known for the species east of the Mississippi valley. This species is here associated with *Opuntia polyacantha*, Haw, in great quantity, giving this peculiar spot in the Alleghanies much the appearance of an arid waste in Arizona. *Stylosanthes hamata* (L.), Britt., here ventures farther east than has heretofore been supposed, and finds congenial soil along New River in Fayette County. *Lespedeza striata* (Thunb.), H. & A., spreads profusely throughout the southwestern portion of the State. A new clover, *Trifolium Virginicum*, Small, has been discovered in Greenbrier County, by Mr. J. K. Small.

The roses are striking in the many new forms they produce: *Rubus Millspaughi*, Britt., is so profuse in the mountains of Pocahontas and Pendleton Counties that, according to the mountaineers and hunters, it is upon it that the bears depend principally for fattening food prior to hibernation. *Rubus Canadensis roribaccus*, Baily, the Leucretia dewberry, came originally from Randolph County. Another peculiar Rubus (*R. Columbianus* Millsp., has 5 to 7-incised leaves of striking character. A new Spirea (*S. Virginiana*, Britt.) grows plentifully within half a mile of the University at Morgantown. Mercer County in the southern section of the State, presents a wonderful array of Crategi: *C. spathulata*, *C. cordata*, *C. apiifolia*, *C. coccinea*, *C. tomentosa*, *C. punctata*, *C. Crus-galli*, *C. flava* and its variety *pubescens*, and *C. uniflora* were all found during one day's botanizing in this section.

Of the Calycanths we have all, even the two species recorded "Virginia doubtful" in the Manual.

Of the saxifrages we have notably, *Astilbe decandra*, Don., *Saxifraga erosa*, Pursh., *Boykinia aconitifolia*, Nutt., *Heuchera villosa*, Mx., and *H. Americana*, L., and even the Laboradorian *Ribes prostratum*, L' Her.

Sedum Pulchellum, *Nevii*, *ternatum*, *telephioides*, and *telephium*, are with us. The beautiful *Liquidambar Styraciflua* extends limitedly down the Gauly and Great Kanawha. The Onagraceæ yield a new form in *Ludwegia alternifolia*, L., var. *linearifolia*, Britt. The purple and yellow passion-flowers (*P. lutea*, L., and, *incarnata*, L.) grace the thickets.

Passing many minor forms, the Compositæ gives us *Elephantopus Carolinianus*, Willd. and *tomentosus*, L. (called as a weed "The Devil's Grandmother"); *Eupatorium, cœlestinum*, L., profuse; *Solidago Curtisii*, *S. rupestris*, and *Riddellii*, *Silphium perfoliatum*, L.; *Rudbeckia speciosa*, Wend.; *Helianthus grosse-serratus*, Mart., *H. doronicoides*, Lam., and

H. laevigatus, T. and G., *Verbesina Virginica*, L.; *Cacalia suaveolens*, *reniformis*, and *atriplicifolia; Cnicus Virginianus*, and *pumilus*, Torr.; *Cichorium Intybus*, L.; *Tragopogon porrifolius*, L.; *Hieracium Canadense*, Mx., and *longipilum*, Torr. (extending both); and *Chondrilla juncea*, L., called as a weed "Naked-weed, Skeleton-weed."

The interesting bell-worts are: the white form of *Lobelia syphilitica*, L., and the rare *Campanula divaricata*, Mx.

Of the rarer heaths *Schollera erythrocarpa*, Mx., grows on the highest peak of the Alleghanies, alt. 4,800 ft.; *Chiogenes hispidula* at the Falls of Blackwater; *Menziesia globularis* Salisb., *Clethra acuminata*, Mx., *Moneses grandiflora*, Salisb.. and all the Rhododendrons except *Rhodora* and *Lapponicum*; even the rare *R. canescens* (Mx.), Porter, being found along the Cacapon River.

Naumbergia thyrsiflora is found in Upshur County and *Mohrodendron Carolinum* (called Shittim-wood) is plentiful along the Gauly and New Rivers. *Polemonium Van-Bruntiæ*, Britt., comes south to our flora, as well as all the *Hydrophyllums*, together with *Phacelia Purshii*, Buck, and *parviflora*, Pursh.

The beautiful morning-glories, *Impomoea coccinea*, *hederacea*, *purpurea*, and *pandurata*, are all too plentiful as weeds here; and *Cuscuta glomerata*, *Gronovii*, and *Epithymum*, have been found sparingly. *Physalis viscosa*, L., steals away from "near the coast" and is found along the Ohio River, keeping company with *Lycium vulgare*, Dun., and *Physalodes Physaloides*, Gaertn.

The notable *Scropularias* are: *Collinsia verna*, Nutt., *Chelone obliqua*, L., and *Pentstemon Canescens.* Of the mints we have notably: *Kœllia verticilata*, *clinopodioides*, *pycanthemoides*, and *Montana.* The other mints worthy of remark are: *Meehania cordata*, *Clinopodium vulgare*, *Scutellaria saxatilis*, *serrata*, *incana*, *parvula*, and *nervosa*; *Marrubium vulgare*, *Galeopsis tetrahit*, and *Stachys palustris* and *cordata.*

Of the ten Euphorbias the most notable are *E. Darlinglonii* and *E. Glyptosperma*, *var.*, *pubescens*, Engl., the latter not having been previously found east of Iowa as far as we can learn.

The presence of *Quercus ilicifolia*, Wang, in Hardy Co., extends the Manual distribution southeastward; and the southing of *Q. macrocarpa*, Mx. is also extended by several stations in the State.

As to the conifers, we have about 470,000 acres of *Picea Mariana*, a few representatives of *Abies balsamea*, *Thuya occidentalis*, and several species of Pinus, as well as a few scant growths of *Taxus Minor.*

Among the sedges the principal item of interest is the re-discovery in Fayette County of what was doubtless the original type station of *Carex Fraseri*, And.

Of the *Equisetaceæ* the most notable form so far found is *E. lævigatum*, Braun., gathered in the southernmost part of the State thus extending its distribution southeastward.

Of the *Filices*, the rarer forms found with us are: *Polypodium polypodioides*; *Pellæa atropurpurea* in great quantities in the southern section; *Asplenium pinnatifidum*, *montanum* (plentiful) and *angustifolium*; *Dryopteris Goldieana*, and *marginalis*. *Cystopteris bulbifera; Dicksonia punctilobula;* and strange to say on the summit of Spruce Knob at an altitude of 4,800 ft. *Dryopteris fragrans*, in such great quantity that it is cut and stacked for fodder, this species being greatly relished by cattle.

Lycopodium lucidulum, L., *annotinum*, L., *obscurum* and its var. *dendroideum*, L. *clavatum*, and L. *complanatum* are all found in the forests of black spruce along the Alleghanies.

In the mosses, hepatics, and lichens, but little collecting has so far been done, no systematic searches having been made for specimens in these classes of plants. Among the lichens several new species have been discovered, the descriptions of which are still in manuscript with Professor Nylander. In the search for hepatics incidental to other exploration, in Mercer County, the dry bald face of a large limestone cave yielded a new species in *Plagiochila Virginica* Evans, as well as a rarity in the eastern flora of the United States, *Radula Xalapensis*, Mont. Among the mosses we have been rewarded in our itinerant work by finding two new forms *Dicranodontium Virginicus*, Britt. m. and *D. Millspaughi* Britt. m., as well as numerous noteworthy species.

The Fungi have been found to be of special interest, and it is to their collection and study that Mr. Nuttall has devoted most of his spare hours from business since 1893. His field of search for forms in this class of plants has been very limited, being almost wholly the immediate neighborhood of his home at Nuttallburg, in Fayette County, on New River. Even this small area has furnished the major part of the 980 fungi of this flora, and continues to present additional forms as well as unique hosts upon every search, no matter how casual the examination or short the time devoted to the trip. Fully two-thirds of the species collected have passed under the critical examination of Mr. J. B. Ellis, whose careful consideration of our numbers has been of incalculable assistance in this work.

The new species discovered in this area, and described in this Flora, are as follows:

Anthostoma micrœcium.
Aposphæria pezizoides.
Aspergillus glaucus oblongisporus.
Botryodiplodia acerina.
Botrytis olivacea.
Camarosporium Linderæ.
Cercospora Chionanthi.
Cercospora Œnotherac.
Cercospora septorioides.
Clasterosporium Cornutum.
Cladosporium nigrellum.
Corticium albo-flavescens.
Corticium leptaleum.
Coryneum cupulatum.
Cyathicula quisquillaris.
Cylindrocolla Dendroctoni.
Cylindrocolla flagellaris.
Cylindrosporium Cratægi.

Cytispora caryigena.
Cytispora Celtidis.
Cytispora exasperans.
Cytispora Halesiæ.
Cytispora Rhois-hirtæ.
Cytispora Sassafras.
Dermatella viticola.
Diaporthe Araliæ.
Diaporthe Halesiæ.
Diaporthe Hydrangeæ.
Didymella Physocarpi.
Diaporthe Tetrapteræ.
Diplodia caryigena.
Diplodia Cercidis.
Diplodia infuscans.
Dothiorella Asiminæ.
Dothiorella minor.
Eutypella densissima.
Fusicoccum ilicinum.
Glœosporium Alni.
Glœosporium rubicolum.
Glœosporium Rumicis,
Glœosporium Sanguinariæ.
Haplosporella Araliæ.
Haplosporella Celtidis.
Helminthosporium brachypus.
Helotiella Nuttallii.
Hypocrea tenerrima.
Hypocrea Virginiensis.
Hypoxylon atroviride,
Hymenula cerealis.
Hypoxylon Nuttallii.
Illosporium cæspitosum,
Isaria Virginiensis.
Lachnella Virginica.
Lophidium nitidum.
Macrosporium olivaceum.
Massaria Magnoliæ.
Microcera erumpens.
Myxosporium luteum.
Myxosporium platanicolum.
Myxosporium seriatum.
Pestalozzia Toxica.
Phlyctæna Ipomœæ.
Phoma Asclepiadea.
Phoma negundinicola ramicola.
Phoma obscurans.
Phoma pedunculi.
Phoma Pennsylvanica.
Phyllosticta Araliæ.
Phyllosticta Castaneæ.
Phyllosticta Celastri.
Phyllosticta cercidicola.
Phyllosticta globifera.
Phyllosticta lindericola.
Phyllosticta macrospora.
Phyllosticta opaca.
Phyllosticta Oxydendri.
Phyllosticta Quercus-Prini.
Phyllosticta rhoicola.
Phyllosticta Ribis.
Phyllosticta Xanthorrhizæ.
Pilacre gracilipes.
Pleosphæria corticola.
Saccidium vitis.
Septoria Brassicæ.
Septoria hyalina.
Septoria Polymniæ.
Septoria Tecomæ,
Septoria Trautvetteriæ.
Septosporium Equiseti.
Sirococcus Halesiæ.
Sphæronæma infuscans.
Sphæronæma Physocarpi.
Sphæropsis Asiminæ.
Sphæropsis Asiminæ fructigena.
Sphæropsis Ipomœæ.
Sphæropsis Œnotheræ.
Sphæropsis Physocarpi.
Steganosporum pedunculi.
Stagonospora petiolorum.
Stagonospora Physocarpi.
Stachylidium caricinum.
Trematosphæria vitigena.
Trichægum nodulosum.
Tubercularia hamata.
Tympanis Oxydendri.
Valsa albo-puncta.
Valsa Chionanthi.
Valsa Diospyri.
Valsa etherialis.
Vermicularia Trautvetteriæ.
Verticillium osteophilum.

Of these those in black-faced type are here described for the first time.

Beside these unique forms, we report many species from our region that have not been before credited to the flora of North America, include many hitherto unpublished asci and spore measurements of species otherwise well described, and have transferred many not before well understood to their proper genera.

The host plants have proven also to be of special interest in that many of them yield certain species for the first time in the mycologic literature of this country, and many others pose as altogether new to Host Indices.

THE SYLVA.

The State is very happily located for the growth of forests, being in the favored belt of temperature between about 37° and 41° north latitude. Within its boundaries trending northeast and southwest, thus opening the country to the damp, warm winds from the Gulf, are numerous ranges of the great Appalachian, or Atlantic highlands, but by far the larger portion of the State lies on the westward slope of these mountains in the trans-Appalachian belt, the waters of which chiefly run northwestward and southwestward to the Ohio River. The altitude of the country descends from the Backbone or Alleghany range of the Appalachians, from an altitude of from 2,500 and 4,800 feet to 500 at the southwestern corner of the State on the Ohio, at Kenova, and about 600 on the same river at Wheeling. The altitude of the eastern corner of the State at Harper's Ferry is 272 feet; thus the range of altitudes in the State is from 272 feet to about 4,800, giving a climatic range of 3,728 feet, or the equivalent of about 16° of latitude; consequently West Virginia has extensive areas of adaptability for every variety of forest growth that is found within the limits of the northern States east of the Rocky Mountains.

The most elevated portion of the State is the great eastern border of the ridgy plateau from which the trans-Appalachian country descends, a territory some 200 miles in length from the headwaters of the Big Sandy to those of the North Branch Potomac, this region is in the main from 2,500 to 4,800 feet in altitude, and furnishes a congenial home to the black spruce, the white pine, and other evergreen trees peculiar to northern latitudes.

West Virginia has a greater amount of hardwood timber in its forests than any other State in the Union. A thorough examination convinces us that nearly or quite two-thirds of the State remains uncleared, and by far the greater portion of the uncleared land is still in virgin forests where the ax of man has never found its way, and where magnificent specimens of forest growth stand thickly side by side and reach a towering height, no finer view of standing timber may be had within the confines of the Union. These splendid forests covering over sixteen thousand square miles yield nearly every species found in the north. Here trees grow to such size that ordinary methods will not suffice to handle them, and are frequently so densely compact that the light of day scarce penetrates their shade, and pathways must be cut before the ax men can find room to work.

The following list of the trees of the State, giving the diameter of trunks and width of board yield, is that of the State exhibit in the Forestry Building at the World's Columbian Exposition, 1893. The specimens were all gathered during the winter of 1892-3.

Ash (white), *Fraxinus Americana.* Logs 40 in., 62 in., 93 in., planks 27 and 33 in., finished boards, plain, 20 and 21 in., mottled, 9, 13 and 16 in., figured 9 and 13 in.

Ash (black), *F. nigra.*

Ash (mountain), *Sorbus Americana.* Trunk 8 in.

Ash (prickly), *Xanthoxylum Americanum.* Trunk 12 in.

Alder (mountain), *Alnus viridis.* Trunk 4 in.

Beech, *Fagus atropunicea.* Trunks 24 in., 27 in. and 38 in., plank 27 in., finished boards 27 and 31 in., quartered boards 7 and 9 in.

Beech (water), *Carpinus Caroliniana.* Trunk 10 in.

Birch (red), *Betula lenta.* Trunks 34 in., 93 in., 61 in., 48 in., planks 15 and 30 in., finished boards 12 and 16 in., figured boards 8, 13, and 14 in.

Birch (yellow), *Betula lutea.* Trunks 34 in., 36 in., 42 in., 49 in., plank 26 in.

Birch (hybrid), *Betula lenta* x *lutea.* Trunk 2 in.

Basswood (white), *Tilia Americana.* Trunks 32 in., 36 in., 43 in., 51 in., plank 28 in., finished board 16 in.

Basswood (yellow), *Tilia heterophylla.* Trunk 26 in.

Buckeye, *Æsculus glabra.* Trunk 29 in.

Buckeye (purple), *Æ. octandra hybrida.* Trunk 29 in.

Box Elder, *Acer Negundo.* Trunk 27 in.

Butternut, *Juglans cinerea.* Trunk 12 in.

Balsam Fir, *Abies balsamea.* Trunk 13 in.

Chestnut, *Castanea dentata.* Trunks 53 in., 40 in., 62 in., 78 in. plank 40 in., finished boards 26 in.

Cherry (wild), *Prunus serotina.* Trunks 36 in., 39 in., 48 in., 53 in., plank 27 in., finished boards 6 and 18 in., blistered 13, figured 6 to 19 in., curly 9 to 21 in.

Cherry (wild), *Prunus Pennsylvanica.* Trunk 14 in.

Cucumber, *Magnolia acuminata.* Trunk 35 in., plank 26 in.

Cottonwood, *Populus monilifera.* Trunk 26 in.

Crab (wild), *Pyrus coronaria.* Trunk 8 in.

Dogwood, *Cornus florida.* Trunks 7 in., 13 in., 28 in.

Elm (White), *Ulmus Americana.* Trunks 23 in., 42 in., 61 in.

Elm (red, slippery), *Ulmus pubescens.* Trunk 16 in.

Fringe tree, *Chionanthus Virginica.* Trunk 3 in.

Gum (black), *Nyssa sylvatica.* Trunk 36 in., plank 27 in.

Gum (sweet), *Liquidambar styraciflua.* Block 19 in.

Grape (Fox), *Vitis Labrusca.* Trunk 22 in., branches 18 in.

Hackberry, *Celtis occidentalis.* Trunk 18 in.

Haw (black), *Viburnum prunifolium.* Trunk 5 in.

Hemlock, *Tsuga Canadensis.* Trunk 42 in., plank 30 in., finished boards 12 and 19 in.

Hercules Club, *Aralia spinosa.* Trunk 5 in.

Hickory (bitter), *Hicoria minima.* Trunks 9 and 12 in.

Hickory (red), *Hicoria glabra.* Trunks 11 and 17 in.

Hickory (shagbark), *Hicoria ovata.* Trunk 27 in., planks 14 and 18 in.

Holly (white), *Ilex opaca.* Trunk 10 in.

Holly (mountain), *Ilex monticola.* Trunk 6 in.

Ironwood, *Ostrya Virginiana.* Trunks 12 in., 24 in., 38 in.

Juniper, *Juniperus Virginiana.* Trunk 7 in.

Laurel, *Kalmia latifolia.* Trunk 8 in., root 24 in.

Locust (yellow), *Robinia Pseudacacia.* Trunks 18 in., 24 in., 38 in.

Locust (honey), *Gleditchia triacanthos.* Trunks 14 in., 28 in., 30 in., in thorn 10 in.

Magnolia, *Magnolia tripetala.* Trunk 15 in.

Magnolia (ear-leaf), *Magnolia Fraseri.* Trunk 12 in.

Mulberry, *Morus rubra.* Trunks 8 and 11 in.

Mulberry (paper), *Papyrius Papyrifera.* Trunk 9 in.

Maple (blistered), *Acer saccharum,* Marsh. Trunk 26 in., boards 9 and 11 in.

Maple (sugar), *Acer saccharum,* Marsh. Trunks 30 in., 40 in., 48 in., plank 28 in., finished boards 29 in., curly boards 13 to 16 in.

Maple (black), *Acer nigrum.* Trunk 16 in.

Maple (white), *Acer saccharinum* L. Trunks 35 in., 49 in., plank 26 in., birdseye boards 10 to 12 in.

Maple (red), *Acer rubrum.* Trunk 14 in.

Maple (striped), *Acer Pennsylvanicum.* Trunk 6 in.

Osage Orange, *Toxylon pomiferum.* Trunk 4 in.

Oak (black), *Quercus velutina.* Trunks 10 and 27 in., finished board 11 in.

Oak (Spanish), *Quercus digitata.* Trunks 13 and 18 in.

Oak (swamp), *Quercus palustris.* Trunk 15 in.

Oak (laurel), *Quercus imbricaria.* Trunk 10 in.

Oak (chestnut), *Quercus Prinus.* Trunks 14 in., 27 in., 36 in., finished board 21 in.

Oak (black jack), *Quercus nigra.* Trunks 18 in., 23 in.

Oak (white), *Quercus alba.* Trunks 50 in., 28 in., 32 in., 61 in., plank 37 in., boards (quartered) 5 to 13 in., quartered curly 10 in.

Oak (red), *Quercus rubra.* Trunks 42 in., 54 in., 84 in., plank 44 in.

Persimmon, *Diospyros Virginiana.* Trunk 12 in.

Poplar (yellow), *Liriodendron Tulipifera.* Trunk 48 in., trunk "wheels" 24, 36, 48, 60, 74, 90, and 138 in., the tree from which the last wheel came cut 25,000 feet of merchantable boards, plank 36 and 57 in., cube 36 in., finished boards 27 to 46 in.

Pine (white), *Pinus strobus.* Trunk 36 in.

Pine (yellow), *Pinus echinata.* Trunk 28 in.

Pine (pitch) *Pinus rigida.* Trunk 16 in.

Papaw, *Asimina triloba.* Trunk 8 in.

Rhododendron, *Rhododendron maximum.* Trunk 6 in.

Red Bud, *Cercis Canadensis.* Trunks 5½ and 9 in.

Scyamore, *Platanus occidentalis.* Trunks 52 in., 36 in., 40 in., finished board quartered 33 in.

Sassafras, *Sassafras Sassafras.* Trunk 22 in., finished board "wavy" 18 in.

Silver Bell, *Mohrodendron Carolinum.* Trunk 8 in:

Sourwood, *Oxydendron arboreum.* Trunk 15 in.

Spruce (black) *Picea Mariana.* Trunks 31, 34, and 49 in., planks 8 and 40 in., finished boards 18 and 20 in.

Spicewood, *Benzoin Benzoin.* Trunk 2 in.

Sumach, *Rhus typhina.* Trunk 8 in.

Service, *Amalanchier Canadensis.* Trunks 8 and 9 in.

Thorn, *Crategus coccinea.* Trunk 10 in.

Tree of Heaven, *Ailanthus glandulosus.* Trunks 8 in., 24 in., 38 in.

Witch Hazel, *Hamamelis Virginica.* Trunks 4 and 5 in.

Walnut (black) *Juglans nigra.* Trunks 30 and 36 in., plank 29 in. finished boards "wavy" 20 in., "figured" 21 in.

Willow (black), *Salix nigra.* Trunk 12 in.

SUMMARY OF THE FLORA.

	Genera	Species.		Genera	Species.
Fungi, etc.,	342	980	Equisitæ,	1	4
Lichens,	31	115	Filicinæ,	14	40
			Ophioglossæ,	2	7
Thallophyta, etc.,	373	1095	Lycopodæ,	1	5
			Selaginellæ,	1	1
Hepaticæ,	24	32			
Musci	42	90	Pteridophyta,	19	57
Sphagnæ,	1	1			
			Gymnospermæ,	7	13
Bryophyta,	67	123	Monocotyledons,	95	268
			Dicotyledons,	412	1028
			Anthophyta,	514	1309

Total number of species, varieties and forms detected in the State to the date of this Flora, - - - - - - - - 2584

CATALOGUE.*

Fungi.

PHALLACEÆ.

ITHYPHALLUS Fries.

I. impudicus (Linn.) Fr.

In the juvenile, egg stage, June 15, 1893, Oct. 28, 1893, we find the veil under pileus about one-third its length and part of it encircling the stipe about the middle (*Nuttall*, 983).

NIDULARIACEÆ.

CRUCIBULUM Tul.

C. vulgare Tul.

On sticks and leaves, open woods, and on old cotton cloth, July 6, 1893 (*Nuttall*, 1079).

LYCOPERDACEÆ.

TYLOSTOMA Pers.

T. mammosum (Mich.) Fr.

On light soil on rock, March 24, 1893 (*Nuttall*, 880).

MITREMYCES Nees.

M. lutescens Schn.

On wet mossy banks, alt. 2,000 ft., March 25, 1893 (*Nuttall*, 881).

GEASTER Mich.

G. mammosus Chev.

On earth, Short Creek, July 6, 1893 (*Nuttall*, 1080).

BOVISTA Dill.

B. lepidophora (E. & E.) De Ton.

In grass on lawn, Sept. 5, 1893. Clavate 8 cm. high, 12 cm. broad, sterile base 3.5 cm. thick, white cuticle 1.5 mm. thick, gleba pale yellow (*Nuttall* 1193).

B. PILA Berk. & Curt.

Free on open ground. Monongalia Co., near Morgantown (*Millspaugh*).

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*Unless otherwise stated, all my numbers in this Flora are from Fayette Co., near Nuttallburg.—*L. W. Nuttall.*

LYCOPERDON Tourn.

L. gemmatum Batsch.
On ground in woods, alt. 2,000 ft., Aug. 24, 1893 (*Nuttall*, 1180).

L. furfuraceum Schæff.
In grass on lawn, Sept. 3, 1893. Capillitium thicker than the spores, branches few, 2.5 to 4 cm. in diameter, outer coat pure white (*Nuttall*, 1188).

L. pedicellatum Peck.
On moss on ground in pine woods, alt. 2,000 ft., March 10, 1893. Pedicels 20 μ long (*Nuttall*, 864).

L. PYRIFORME Schæff.
Under bark of *Quercus palustris*, Monongalia Co., near Morgantown and near Little Falls (*Millspaugh*) on rotten wood, Feb. 2, 1893 (*Nuttall*, 832).

SCLERODERMA Pers.

S. VULGARE Hornem.
On chips of *Picea Mariana*, Tucker Co. Falls of Blackwater (*Millspaugh*). Grant Co., on dead logs, Otter Fork of Cheat; and Monongalia Co., Tibbs Run, plentiful on clay of a path (*Millspaugh*). In laurel thickets, July 28, 1893. Spores 10 μ. (*Nuttall*, 1125).

S. Bovista Fr.
On ground, March 21, 1893 (*Nuttall*, 876).

BOVISTELLA Morg.

B. Ohioense (Ell. & Morg.) Morg.
In grass on lawn, June 26, 1893 (*Nuttall*, 1003).

MUCORACEÆ.

MUCOR Mich.

M. MUCEDO Linn.
On open canned fruit left standing (*Millspaugh*). On dead dry fruit *Asimina triloba*, Oct. 1, 1895 (*Nuttall*, 1866, 754).

SPORODINIA Link.

S. Aspergillus (Scop.) Schroet.
On dead *Agaricus* and *Boletus*, Sept. 10, 1893 (*Nuttall*, 1196).

PERONOSPORACEÆ.

CYSTOPUS Lev.

C. CANDIDUS (Pers.) Lev.
On living leaves of *Dentaria diphylla*, Monongalia Co., at Little Falls (*Millspaugh*). On *Brassica nigra*, July 8, 1893 (*Nuttall*, 1082).

C. Portulacæ (DC) Lev.
On *Portulacca oleracea*, July 8, 1893 (*Nuttall*, 1083).

C. Bliti (Biv.) DeB.
On *Amaranthus retroflexus*, July 20, 1893. Spores 18 to 22 x 15 to 18 μ (*Nuttall*, 1615).

PLASMOPARA Schroet.

P. VITICOLA (B. & C.) Berl. & De Ton.
On fruit of *Vitis Labrusca*, Monongalia Co., near Morgantown (*Millspaugh*).

PHYTOPHTHORA DeBary.

P. INFESTANS (Mont.) DeB.
On living leaves and tubers *Solanum tuberosum*, Monongalia Co., near Morgantown (*Millspaugh*).

BREMIA Regel.

B. Lactucæ Regel.
On *Lactucca Canadensis* and *L. hirsuta*, June 14, 1894 (*Nuttall*, 1549).

PERONOSPORA Corda.

P. OBOVATA Bon.
On living leaves *Spergula arvensis*, Preston Co., near Terra Alta (*Millspaugh*).

ENTOMOPHTHORACEÆ Nowak.

EMPUSA Cohn.

E. MUSCÆ (Fr.) Cohn.
On *Musca domestica*, Monongalia Co., at Morgantown (*Millspaugh*). Very prevalent on a species of *Tachina* found on maple leaves in great numbers in 1892 at Morgantown (*Millspaugh*).

E. GRYLLI Fr.
On tufted caterpillars, on grasshoppers, and on the house fly, Monongalia Co., at Morgantown (*Millspaugh*).

SCHIZOMYCETACEÆ.

BACCILLUS Cohn.

B. TUBERCULOSIS Koch.
In sputa of consumptive (*Millspaugh*).

B. ACIDI-LACTICI (Zopf) Schroet.
In soured milk (*Millspaugh*).

B. SUBTILIS (Ehrenb.) Cohn.
In infusion of hay and on exposed boiled potato (*Millspaugh*).

B. ULNA Cohn.
On exposed coagulated egg albumen (*Millspaugh*).

SPIRILLUM Ehrenb.

S. UNDULA (Muell) Ehrenb.
In infusion of hay (*Millspaugh*).

BACTERIUM Ehrenb.

B. LINEOLA (O. F. Muell) Cohn.
In infusion of radish (*Millspaugh*).

B. TERMO (O. F. Muell.) Ehrenb.
In various decomposing organic substances (*Millspaugh*).

MICROCOCCUS (Hall.) Cohn.

M. CREPUSCULUM (Ehrenb.) Cohn.
Found associated with *Bacterium Termo* in decomposing vegetable infusions (*Millspaugh*).

M. AMYLOVORUS Burrill.
On fruit of *Pyrus communis*, Monongalia Co., near Morgantown (*Millspaugh*).

M. AURANTIACUS, Cohn.
Caught on sterilized potato in laboratory (*Millspaugh*).

M. LUTEUS Cohn.
Caught on sterilized potato in laboratory (*Millspaugh*).

STREPTOCOCCUS Billr.

S. PYOGENES (Rosenb.) Zopf.
Micrococcus septicus, Cohn. In blood of dead calf (*Millspaugh*).

S. UREÆ (Cohn.) Trev.
Micrococcus ureæ, Cohn. In decomposing urine (*Millspaugh*).

SACCHAROMYCETACEÆ.

SACCHAROMYCES Meyen.

S. CEREVISIÆ Meyen.
In Pasteur's liquid left uncorked in laboratory (*Millspaugh*).

S. MYCODERMA Reess.
On same liquid as above at same date (*Millspaugh*).

DIATOMACEÆ.

CYMBELLA GASTROIDES, Kuetz.
CYMBELLA TURGIDA (Grun.) Greg.
STAURONEIS PHŒNICENTRON Ehrb.
NAVICULA VIRIDIS, Kuetz.
NAVICULA MAJOR, Kuetz.
NAVICULA NOBILIS (Ehrb.) Kuetz.

NAVICULA RHOMBOIDES, Ehrb.
NAVICULA BOREALIS (Ehrb.) Kuetz.
NAVICULA TRINODIS, Lewis.
ACHNANTHES LANCEOLATA, Breb.
SYNEDRA ULNA (Nitzsch.) Ehrb.
NITZSCHIA AMPHIOXYS INTERMEDIA, Grun.

MYXOMYCETEÆ.

PHYSARUM Pers.

P. citrinum Schum.
On moss, alt. 2,000 feet, Aug. 2, 1893, (*Nuttall*, 1160).

P. pulcherrimum B. & R.
On dead wood, July 25, 1893 (*Nuttall*, 1133).

P. psittacinum Ditm.
On fruit cones of *Magnolia Fraseri*, alt. 2,000 ft., Aug. 12, 1893 (*Nuttall*, 1165).

P. sinuosum (Bull.) Rost.
On bark of *Aralia spinosa*, Aug. 16, 1893 (*Nuttall*, 1154).

LEOCARPUS Link.

L. fragilis (Dicks.)
On *Aspidium spinulosum* and twigs of *Tsuga Canadensis*, Nov. 25, 1895 (*Nuttall*, 1888).

TILMADOCHE Fr.

T. nutans (Pers.) Rost.
On dead *Asparagus* leaves, and dead limbs *Magnolia Fraseri*, Nov. 4, 1893 (*Nuttall*, 1264).

T. gyrocephala (Mont.) Rost.
On dry bark of *Hicoria ovata*, living leaves of *Hydrangea*, etc., Short Creek, alt. 1,300 ft., Aug. 21, 1893 (*Nuttall*, 1168).

T. viridis (Gmel.) ?
On dead limbs *Magnolia Fraseri*, Sept., 1895 (*Nuttall*, 1856, 744?)

DIDYMIUM Schrad.

D. squamulosum (Alb. & Schw.) Fr.
On new timber in mine near the entrance, Sept., 1893 (*Nuttall*, 1342).

DIACHÆA Fries.

D. leucopoda (Bull.) Rost.
On dead wood and leaves in damp, shady place, June 23, 1893 (*Nuttall*, 998).

LAMPRODERMA Rost.

L. violaceum (Fr.) Rost.
On very rotten wet log, Short Creek, alt. 1,300 ft., Oct. 25, 1893 (*Nuttall*, 1255).

COMATRICHA P. Hoyer.

C. Friesiana (DeB.) Rost,
On rotten log, Nov. 6, 1893 (*Nuttall*, 1237).

STREMONITIS Gled.

S. fusca Roth.
On rotten log, and on *Hydnum* sp., April 7, 1893 (*Nuttall*, 889).

S. ferruginea Ehrh.
On log, Keeney's Creek, June 9, 1893 (*Nuttall*, 973).

TUBULINA Pers.

T. cylindrica (Bull.) DeC.
On dead log. Spores brown, rough (reticulate?) approx. 6 μ diameter, Oct. 20, 1893 (*Nuttall*, 1230).

LINDBLADIA Fries.

L. effusa (Ehr.) Rost.
Forms large patches on dead *Tsuga Canadensis* at Short Creek Cliff and Masterson's Glade, July 15, 1893 (*Nuttall*, 1130).

CRIBRARIA Pers.

C. aurantiaca Schrad.
On dead wet log, July 25, 1895 (*Nuttall*, 1826, 712).

RETICULARIA Bull.

R. Lycoperdon Bull.
On dead log, Short Creek, April 6, 1893 (*Nuttall*, 888).

ARCYRIA Hall.

A. punicea Pers.
On rotten stump, June 15, 1893 (*Nuttall*, 979).

A. cinera (Bull.) Schum.
On damp dead wood and weeds in shade, July 24, 1893 (*Nuttall*, 1118).

A. nutans (Bull.) Grev.
On dead log, Short Creek. Spores 7.5μ, July 24, 1893 (*Nuttall*, 1119).

LYCOGALA Mich.

L. epidendron Buxb.
On wet dead logs, June 15, 1893 (*Nuttall*, 995). On *Magnolia Fraseri*, Nov. 1895.

TRICHIA Hall.

T. fallax Pers.
On side of dead log, Oct. 19, 1893. Rich reddish-brown color. when fresh, shining pale-brown when dry; elaters long and slender pointed, spores 10 to 12.5 μ (*Nuttall*, 1209).

T. CHRYSOSPERMA (Bull.) DeC.
On decayed wood, Monongalia Co., near Morgantown (*Millspaugh*). On dead logs, Feb. 8, 1893 (*Nuttall*, 842).

T. proximella Karst.
On *Liquidambar styraciflua*, Feb. 6, 1893 (*Nuttall*, 836).

HEMIARCYRIA Rost.

H. RUBIFORMIS (Pers.) Rost.
Under bark of *Fraxinus Americana* and *Quercus alba*, Monongalia Co., near Morgantown (*Millspaugh*). On bark of dead *Quercus* sp. Feb. 13, 1893 (*Nuttall*, 843).

H. CLAVATA (Pers.) Rost.
Under bark of wet decaying log *Quercus alba*. Monongalia Co., near Morgantown (*Millspaugh*). On dead log, June 15, 1893 (*Nuttall*, 831).

H. stipata Schw.
On dead wet limbs of *Magnolia Fraseri*, Sept. 16, 1895 (*Nuttall*, 1847).

HYPHOMYCETACEÆ.

OOSPORA Wallr.

O. fasciculata (Berk.) Sacc.
On decaying orange, Jan. 15, 1893 (*Nuttall*, 1134).

MONILIA Pers.

M. aureo-fulva C. & E.
On under side dead log *Liquidambar styraciflua*, Aug. 29, 1893 (*Nuttall*, 1186).

M. FRUCTIGENA Pers.
On ripe fruit *Prunus cerasus* cult. Monongalia Co., near Morgantown (*Millspaugh*). On fruit of *Prunus domestica* cult. and *Amygdalus Persica* cult., June 28, 1893 (*Nuttall*, 1006).

POLYSCYTALUM Riess.

P. sericeum Sacc.
On *Quercus Prinus*, Nov., 1893 (*Nuttall*, 1335, 293).

OIDIUM Link.

O. erysiphoides Fr.
On *Zizia cordata*, *Eupatorium purpureum* and *Rubus odoratus*, Nov. 18, 1893 (*Nuttall*, 1266, 210).

O. LEUCOCONIUM Desm.
On leaves of *Rosa* cult., Cabell Co., near Huntington (*Millspaugh*).

O. MONILIOIDES Link.
On living leaves *Poa pratensis*, Preston Co., near Terra Alta (*Millspaugh*). On same host, May 30, 1894 (*Nuttall*, 1512).

BOTRYOSPORIUM Corda.

B. pulchrum Corda.

On *Lactuca Canadensis*, Aug. 23, 1895. Tips of branches inflated. Spores 7.5 x 2.5 μ (*Nuttall*, 1844, 735).

TRICHODERMA Pers.

T. lignorum (Tode) Harz.

Under bark rotten *Hicoria ovata* Short Creek, alt. 1,250 ft., Dec. 8, 1893 (*Nuttall*, 1299, 248).

ASPERGILLUS Mich.

A. glaucus (Linn.) Link.

On *Crategus* sp., April 30, 1894 (*Nuttall*, 1474).

A. glaucus oblongisporus E. & E. n. var?

Found on *Lachnocladium semivestitum* after neglect in plant press (*Nuttall*, 1871, 760).

This is either a new species or a distinct variety of A. glaucus. The smooth oblong-elliptical conidia are quite different from the usual form. Spores 5 to 7.5 x 2.5 to 3 μ.

A. flavus Lk.

Also found on *Lachnoladium semivestitum* neglected in plant press (*Nuttall*, 1877, 760).

Conidia 4 to 6 μ diameter.

STERIGMATOCYSTIS Cram.

S. nigra v. Tiegh.

On dried peach in garden, Aug. 15, 1893 (*Nuttall*, 1170).

PENCILLIUM Link.

P. glaucum Link.

On *Hydnum* sp. and *Polyporus varians*, Aug. 16, 1893 (*Nuttall*, 1164, 136).

BOTRYTIS Mich.

B. olivacea E. & E. sp. nov.

TYPE HABITAT: On dead log. Short Creek, alt. 1,800 ft., Feb. 26, 1894 (*Nuttall*, discov. 1411, 381). Fungi Columbiana, 593. N. A. F., 3187.

Forming thin olivaceous patches 2 to 4 cm. in extent, composed of olive-brown, septate threads, about 4 μ thick, and dichotomously or oppositely branched above, the short (15 to 25 μ) branches sub-attenuated above, and bearing the obovate or elliptical, olive-brown, 6 to 8 x 4 to 4.5 μ conidia at their tips.

B. torta E. & E., Proc. Phila. Acad., 1894, 375.

TYPE HABITAT: On dead leaves *Carex Fraseri*, Dec. 10, 1893 (*Nuttall*, discov. 1248, 257).

Hyphæ simple, sparingly branched, twisted above as in *B. streptothrix* or in *Streptothrix atra* B. & C., brown, 80 to 100 x 3 to 4 μ, forming numerous small brownish-black tufts, effused or gregarious, on both sides of the leaf. Conidia elliptical brown, 5 to 6.5 x 3 to 3.5 μ.

Differs from *B. streptothrix* (C. & E.) in its much smaller conidia and more dwarfish growth.

B. vulgaris Fr.

On leaves *Magnolia Fraseri*, alt. 2,000 ft., July 12, 1893; on burrs of *Xanthium Canadense*, Nov. 1, 1893; on pedicels of *Ipomœa pandurata*, Feb. 17, 1894; on decaying *Brassica oleracea*, Jan. 18, 1894; on *Cicuta maculata*, March 18, 1894 (*Nuttall*, 1116).

HYPHODERMA Fr.

H. DESMAZIERI Duby.

On living leaves *Pinus echinata*. Wood Co., near Lockhart's Run (*Millspaugh*).

VERTICILLIUM Nees.

V. osteophilum E. & E., sp. nov.

TYPE HABITAT: On jaw bone of calf, in woods, Nov. 27, 1894 (*Nuttall*, discov. 1761, 647.)

Prostrate sterile hyphæ yellowish-brown, distantly septate, rough, 6 to 7 μ diameter; fertile hyphæ, loosely cespitose, erect septate, smooth, yellowish-hyaline, 7 to 15 μ diameter, the primary branches alternate, and issuing at right angles, bearing opposite or ternately-verticillate branches, the ulmate division 12 to 15 x 4 μ 3 to 4 in a terminal verticil, with tips often curved and bearing 1 to 4 terminal, globose, hyaline, 3.5 to 4 μ; conidia.

V. puniceum (Cke. & E.) Grev.

On dead sticks, June, 1893 (*Nuttall*, 1115).

TRICHOTHECIUM Link.

T. roseum (Pers.) Link.

On dead dried peach on ground; on decaying leaves *Ilex verticillata*, Sept. 14, 1893 (*Nuttall*, 1199).

CEPHALOTHECIUM Corda.

C. roseum Corda.

On old *Polyporus pergamenus*, Short Creek, alt. 1,300 ft., Nov. 10, 1893 (*Nuttall*, 1260, 205).

DACTYLIUM Nees.

D. dendroides (Bull.) Fr.

On *Polystictus versicolor*, and apparently checking its development. Oct. 12, 1893 (*Nuttall*, 1206). Spores 28 x 10 μ.

RAMULARIA Ung.

R. Celastri Ell. & Mart.
On leaves of *Celastrus scandens* near the ground. Oct. 11, 1894. Conidia 15 to 28 μ (*Nuttall*, 1700).

R. Tulasnei Sacc.
On *Fragaria* cult., Oct. 27, 1894 (*Nuttall*, 1724).

R. Taraxaci Karst.
On *Taraxacum Taraxacum*, Oct. 20, 1894 (*Nuttall*, 1722).

DEMATIACEÆ.

CONIOSPORIUM Link.

C. harknessioides (Ell. & Holl.) Sacc.
On *Rumex acetosella*, Oct. 20, 1894 (*Nuttall*, 1727, 613).

TORULA Pers.

T. dimidiata Penz.
On *Rhus hirta*, alt. 1,300 ft., Nov. 21, 1893 (*Nuttall*, 1273, 220).

T. herbarum Link.
On *Asparagus officinalis*, Nov. 1, 1893 (*Nuttall*, 1240, 186).

PERICONIA Bon.

P. pycnospora Fres.
On *Parthenocissus quinquefolia*, Feb. 20, 1894. Conidia 12.5 to 15 μ diameter. On *Rubus odoratus*. On *Polymnia Uvedalia*. On *Phytolacca decandra*, hyphæ 600 x 15 to 16 μ (*Nuttall*, 1413). On *Polymnia Uvedalia*, spores 12.5 to 15 μ Nov. 16, 1894 (*Nuttall*, 1743).

GONATOBOTRYUM Sacc.

G. maculiocolum (Wint.) Sacc.
On young sprouts *Hamamelis Virginica* 1 to 2 feet high; Short Creek, alt. 1,850 ft., Aug. 15, 1894 (*Nuttall*, 1656).

STREPTOTHRIX Corda.

S. atra B. & C.
On dead limbs on ground. Conidia 6 to 8 x 4.5 to 5 μ, Dec. 16, 1893 (*Nuttall*, 1329).

ZYGODESMUS Corda.

Z. graminicola E. & E.
On *Carex Fraseri*, spores 7.5 μ Feb. 11, 1894 (*Nuttall*, 1374, 334).

Z. pannosus B. & C.
On charred bark, May 28, 1894 (*Nuttall*, 1531, 502).

STACHYLIDIUM Link.

S. caricinum E. & E., Proc. Phila. Acad., 1894, 377.

TYPE HABITAT: On dead leaves *Carex Fraseri* Feb. 11, 1894 (*Nuttall*, discov. 1375, 335).

Hyphæ fasciculate brown, septate 600 to 700 x 3 μ simple or occasionally forked above towards the tip, with short cylindrical hyaline branches opposite or in whorls of three, bearing at their tips the elliptical, hyaline 4 to 5 x 1.5 to 2 μ conidia, collected into a globose head 10 to 12 μ diameter.

FUSICLADIUM Bonord.

F. DENDRITICUM (Waller.) Fckl.

On living *Pyrus Malus* leaves and fruit. Monongalia Co., near Morgantown (*Millspaugh*).

F. Virginiense E. & E. sp. nov?

TYPE HABITAT: On living leaves *Aster infirmus*, June 29, 1894 (*Nuttall*, discov. 1593, 541).

POLYTHRINCIUM Kunze & Schm.

P. Trifolii Kunze.

On *Trifolium repens*, July 4, 1894 (*Nuttall*, 1588).

CLADOSPORIUM Link.

C. herbarum (Pers.) Link.

On *Polygonatum biflorum*, *Menispermum Canadense*, and leaves of *Rhus hirta*, June 28, 1894 (*Nuttall*, 1564).

C. herbarum fasciculare Corda.

On *Reseda* cult., Jan. 28, 1894. Conidia 15 to 18 x 6 to 7.5 μ 1 to 2 septate (*Nuttall*, 1354).

C. nigrellum E. & E., Proc. Phila. Acad., 1893, 463.

TYPE HABITAT: On inner bark of *Robinia Pseudacacia* railroad ties, Keeney's Creek, Oct. 1893 (*Nuttall*, discov. 1227, 172).

Hyphæ densely tufted, septate, subequal, 150 to 200 x 5 to 6 μ, tufts effused, subconfluent, forming a black, velvety coat extending over the surface of the bark indefinitely, with the same habit as *Macrosporium nigrellum* C. & E. Conidia smoky-hyaline, becoming pale brown, variable in size, the smaller ones ovate, continuous or uniseptate, 6 to 8 x 5 μ, the larger ones oblong-elliptical or sub-cylindrical, 2 to 3-septate, 12 to 15 x 5 to 6 μ.

C. Triostei Peck.

On living leaves *Triosteum perfoliatum*, alt. 1,200 ft., July 26, 1894 (*Nuttall*, 1824).

C. epiphyllum (Pers.) Mart.

On dying leaves *Robinia Pseudacacia*, July 31, 1893 (*Nuttall*, 1139).

C. —— —— sp.

On dead decorticated limb *Magnolia Fraseri*, Sept., 1895 (*Nuttall*, 1853, 739).

A most beautiful velvety black form.

C. epimyces Cooke.

On pileus *Polyporus varians*, Jan. 25, 1894 (*Nuttall*, 1341).

CLASTEROSPORIUM Sz.

C. Cornutum E. & E., sp. nov.

TYPE HABITAT: On decaying wood, Oct. 21, 1895 (*Nuttall*, discov. 1883).

Hyphæ prostrate, septate, branched, brown, about 6 μ diameter. effused in black velvety patches 1 to 2 cm. across. Conidia in pairs or threes, horn-shaped, 10 to 14 septate, 100 to 225 x 14 μ, broadest below, gradually tapering above to an obtuse point, curving outward at the base, rising and spreading out above like the horns of an ox. The conidia are but slightly constricted at the septa and are sessile on the hyphæ, appearing at first as a simple nodule or tubercle on the side of the thread.

Allied to *C. Hirudo* Sacc., but that has solitary multiseptate (55 to 65) conidia and evanescent hyphæ.

HELMINTHOSPORIUM Link.

H. persistens Cooke.

On branches of *Acer* in pine woods, alt. 2,000 ft., March 9, 1894. Conidia 75 to 150 x 10 to 15 μ (*Nuttall*, 1421, 392).

H. macrocarpon Grev.

On decorticated limbs *Platanus occidentalis*. Oct. 6, 1895 (*Nuttall*, 1887). On *Magnolia Fraseri*, Nov. 1895.

H. folliculatum Corda.

On *Zea Mays*, Aug. 2, 1895 (*Nuttall*, 1835).

H. attenuatum Peck & Cooke.

On dead log, Short Creek, alt. 1,800 ft., June 10, 1894 (*Nuttall*, 1547).

H. septemseptatum Peck.

On *Magnolia Fraseri*, June 20, 1894 (*Nuttall*, 1574, 534).

H. brachypus E. & E. sp. nov.

TYPE HABITAT: On dry wood of old log. Oct. 8, 1895 (*Nuttall*, discov. 1873, 757).

Effused in brownish-black patches of several centimeters in extent, velutinous, thin. Prostrate hyphæ only sparingly branched, obscurely septate, crooked; fertile hyphæ cespitose, erect, 40 to 50 x 4 to 6 μ, 2 to 3 septate, abruptly constricted at the tips and subtruncate. Conidia terminal, oblong-fusoid, 5-septate brown, not constricted at the septa, 30 to 40 x 12 to 14 μ, with a short (8 to 10 μ) obconical, hyaline or pale-brown, persistent pedicel, which is sometimes prolonged into a hyaline thread as long as the spore. This prolongation may be something of the nature of a pith or medulla drawn out of the supporting hypha and remaining attached to the pedicel.

CERCOSPORA Fres.

C. Armoraciæ Sacc.
On *Roripa Armoracia.* Conidia 175 x 5 μ, Aug. 26, 1894 (*Nuttall,* 1687, 593).

C. CAULOPHYLLI Peck.
On living leaves *Caulophyllum thalictroides,* Grant Co., near Bayard (*Millspaugh*).

C. Violæ Sacc.
On *Viola obliqua,* Aug. 10, 1895 (*Nuttall,* 1841, 731).

C. granuliformis Ell. & Hol.
On living leaves *Viola obliqua,* June 28, 1894 (*Nuttall,* 1565).

C. oculata E. & K.
On leaves *Vernonia Noveboracensis,* Aug. 6, 1894 (*Nuttall,* 1682).

C. Vernoniæ E. & K.
On leaves *Vernonia Noveboracensis,* Oct. 10, 1894 (*Nuttali,* 1698).

C. omphacodes Ell. & Hol.
On *Phlox amœna,* July 14, 1894 (*Nuttall,* 1605).

C. Dirantherae E. & K.
On leaves of *Dianthera Americana.* Oct. 23, 1895 (*Nuttall,* 1879).

C. avicularis Wint.
On living leaves *Polygonum aviculare,* July 5, 1895 (*Nuttall,* 1815).

C. dubia (Riess) Wint.
On *Chenopodium album viride,* July 4, 1894 (*Nuttall,* 1587).

C. beticola Sacc.
On leaves *Beta vulgaris,* Oct. 4, 1894 (*Nuttall,* 1692).

C. Bœhmeriæ Peck.
On leaves *Bœhmeria cylindrica,* Oct. 5, 1894 (*Nuttall,* 1694).

C. Acalyphæ Peck.
On leaves *Acalypha Virginica,* Oct. 3, 1894 (*Nuttall,* 1691).

C. Ampelopsidis Peck.
On *Parthenocissus quinquefolia.* Conidia + 40 x 3 μ, June 30, 1894 (*Nuttall,* 1578).

C. Menispermi E. & H.
On leaves *Menispermum Canadense.* Conidia + 77 x 5 μ June 26, 1894 (*Nuttall*, 1562).

C. ageratoides E & E.
On *Eupatorium ageratoides*, Oct. 14, 1894 (*Nuttall*, 1706).

C. anthelmintica Atk.
On living leaves *Chenopodium anthelminticum*, Oct. 15, 1894 (*Nuttall*, 1713, 601).

C. Kalmiæ E. & E.
On leaves *Kalmia latifolia*, Aug. 15, 1893 (*Nuttall*, 1167).

C. Œnotheræ E. & E., Proc. Phila. Acad., 1894, 380.
TYPE HABITAT: On leaves *Onagra biennis*, Oct. 1894 (*Nuttall*, discov. 1704, 599).

Spots irregular, mostly elongated, grayish-brown, sub-angular, 3 to 5 x 2 to 3 mm. subconfluent. Hyphæ amphigenous, subhyaline, continuous or faintly 1 to 2 septate, 15 to 20 x 3 μ in minute scattered tufts, few in a tuft, spreading subundulate. Conidia linear or only slightly attenuated above, smoky-hyaline, nucleate and faintly 3 to 5 or more septate, 25 to 80 x 2 to 2.5 μ straight or only slightly curved.

C. Chionanthi E. & E., sp. nov.
TYPE HABITAT: On living leaves *Chionanthus Virginica*, Sept. 1895 (*Nuttall*, discov. 1852, 738).

Spots variable in shape, subindefinite, dark brown, grayish above, 2 to 4 mm. diameter. Hyphæ epiphyllous, cespitose, 75 to 150 x 3.5 to 5 μ, brown, septate, and subgeniculate or subundulate above. Conidia fusoid or clavate, becoming brown, 3 to 5-septate, 30 to 60 x 4 to 4.5 μ.

C. septorioides E. & E. sp. nov.
TYPE HABITAT: On leaves *Rubus Canadensis*, Oct. 16, 1894 (*Nuttall*, discov. 1725, 610).

Spots dirty-brown, irregular, subangular, more or less limited by the veinlets, 2 to 3 mm. diameter, definite, but without any differently colored border. Hyphæ epiphyllous, cespitose on a small tubercular base, simple, sub-entire, continuous, brownish, 20 to 25 x 3 μ. Conidia cylindrical, slightly curved, hyaline, nucleate, 35 to 63 x 2 to 2.5 μ.

Differs from *C. Rubi* Sacc. in its narrower conidia without septa, and its shorter hyphæ.

C. Rubi Sacc.
On leaves *Rubus Canadensis*, Nov. 1894 (*Nuttall*, 1785, 676).

C. depazeoides (Desm.) Sacc.
On *Sambucus Canadensis*, July 26, 1894 (*Nuttall*, 1626).

C. SMILACIS Thum.
On living leaves *Smilax rotundifolia*, Monongalia Co., near Camp Eden (*Millspaugh*). On *Smilax rotundifolia* (*Nuttall*, 1573, 533).

C. smilacina Sacc.
On leaves *Smilax glauca,* Aug. 26, 1894 (*Nuttall,* 1653, 573).

C. columnaris E. & E.
On *Phaseolus vulgaris* cult. Oct. 13, 1895 (*Nuttall,* 1870).

SPORODESMIUM Link.

S. toruloides E. & E.
On dead twigs *Cornus florida,* June 10, 1894 (*Nuttall,* 1548, 514).

S. ———— sp.
TYPE HABITAT: On *Tsuga Canadensis,* Feb. 3, 1894 (*Nuttall,* discov. 331).

S. moriforme Peck.
On *Opulaster opulifolius,* May 12, 1894. Spores 25 to 40 x 25 μ (*Nuttall.* 1503, 483).

S. aurantiacum B. & C.
On a dead stick, Short Creek, July 25, 1893 (*Nuttall,* 1132, 115).

S. concinnum Berk.
On wet dead sticks in association with *Clavaria mucida,* Oct. and Nov., 1893. Conidia 112 to 115 x 30 to 32 μ 65 to 100 x 30 μ (*Nuttall,* 1233).

SPEIRA Corda.

S. minor Sacc.
On *Pinus Virginiana,* Dec. 15, 1894. Conidia 30 x 10 μ (*Nuttall,* 1775, 664).

MACROSPORIUM Fr.

M. commune Rabh.
On dead stems of garden *Asparagus officinalis,* conidia+40x15 μ Nov. 1, 1893 (*Nuttall,* 1222). On petioles of *Aralia spinosa,* conidia 75 x 20 μ (*Nuttall,* 358). On *Rumex obtusifolius, Rhus radicans* and *Cicuta maculata?* (*Nuttall*).

M. ———— sp.
TYPE HABITAT: On dead stems *Polymnia Uvedalia,* Nov. 3, 1893 (*Nuttall,* discov. 1736, 623).

M. Abutilonis Speg.
On *Abutilon Abutilon,* July 21, 1895 (*Nuttall,* 1836).

M. ———— sp.
TYPE HABITAT: On decayed fruit *Diospyros Virginiana,* April 25, 1895 (*Nuttall,* discov. 1825, 711).

M. asclepiadeum Cooke?
On *Asclepias Syriaca,* Nov. 3, 1894 (*Nuttall,* 1730).

M. caudatum C. & E.
'On dead flowers of *Yucca* cult., Sept. 5, 1894 (*Nuttall,* 1680, 587). On stems of *Phytolacca decandra,* conidia 88 x 20 μ.

M. Saponariæ Peck.
On *Saponaria officinalis*, Oct. 6, 1894 (*Nuttall*, 1695).

M. olivaceum E. & E., Proc. Phila. Acad., 1894, 383.
TYPE HABITAT: Parasitic on *Sphæropsis Asiminæ* on dead limbs of *Asimina triloba*, March, 1894 (*Nuttall*, discov. 1418, 388).

Forms a light olive velutinous coat over the pustules of the *Sphæropsis*. Hyphæ tufted, yellowish brown (under the microscope), septate, erect, nearly straight or subundulate, 80 to 100 x 4 to 5 μ. Conidia obovate or obpiriform, 3 to 5-septate and muriform, brown, 24 to 38 x 15 to 20 μ terminal, sessile. Conidia also occur subcubical or subglóbose 15 to 20 μ diameter with 2 septæ crossing each other at right angles.

M. antennæforme B. & C.
On *Celtis occidentalis*, Aug. 11, 1894 (*Nuttall*, 1652). Conidia + 95 x 15 μ.

M. ———— sp.
TYPE HABITAT: On pods of *Datura Stramonium*, Feb. 10, 1894 (*Nuttall*, discov. 1369, 326).

M. TOMATO Cooke?
On ripe fruit *Lycopersicum esculentum* cult. Spores shorter than described. Sept. 9, 1893 (*Nuttall*, 1195). Same host Monongalia Co., at Morgantown, prevalent 1891 (*Millspaugh*).

M. Maydis C. & E.
On leaves *Zea Mays* cult., with conidia smaller than described, Nov. 1893 (*Nuttall*, 1334, 292).

TRICHÆGUM Corda.

T. nodulosum E. & E., Proc. Phila. Acad., 1894, 385.
TYPE HABITAT: On dead leaves *Carex Fraseri*, Feb. 11, 1894 (*Nuttall*, discov. 1373, 333).

Erumpent, tufted, becoming subeffused, black, tufts gregarious, forming subvelutinous patches 2 to 4 mm. across, or when standing singly the hyphæ and conidia forming a compact mass .5 to 1 mm. diameter, and resembling somewhat the sorus of a *Puccinia*. Hyphæ simple sparingly fasciculate, brown, septate, often swollen at the septa, about 4 μ thick and 200 to 300 μ long. Conidia near the base of the hyphæ, at first elliptical, yellowish-hyaline, uniseptate, 8 to 10 x 6 to 7 μ, soon becoming 4 to 6-septate, muriform and opaque, 10 to 25 μ diameter, subglobose, obovate, or elliptical.

SEPTOSPORIUM Corda.

S. EQUISETI PECK, Rep. State Bot. N. Y., 1892, 25.
TYPE HABITAT: Tips of living leaves *Equisetum arvense*, Doddridge Co., near Center Point, and Monongalia Co., on College campus, Morgantown (*Millspaugh*, discov. 1891).

Hypæ forming minute tufts, the fertile very short, bearing acrogenous spores, the sterile longer, septate, colored; spores elliptical, usually with three transverse septæ and one or two longitudinal ones, colored, .001 in. long, .005 in. broad.

SARCINELLA Sacc.

S. heterospora Sacc.
On *Cercis Canadensis*, Oct. 16, 1894 (*Nuttall*, 1726, 610).

STILBACEÆ.

STILBUM Tode.

S. magnum Peck.
In cracks of bark, Nov. 6, 1893. Spores 2.5 x 1.25 μ (*Nuttall*, 1278, 225).

S. flavipes Peck.
On dead driftwood *Platanus occidentalis*, Dec. 12, 1894 (*Nuttall*, 1767).

S. erythrocephalum Ditm.
On dung of Rabbit, Jan. 18, 1894 (*Nuttall*, 1345, 304).

S. vulgare Tode?
On fallen dead leaves, Short Creek, July 25, 1893 (*Nuttall*, 1137, 120).

PILACRE Fries.

P. gracilipes E. & E., Proc. Phila. Acad., 1894, 386.
TYPE HABITAT: On rotten wood, Short Creek, alt. 1,750 ft., Dec. 16, 1893 (*Nuttall*, discov. 1219, 274).

Scattered, stem slender, white-pruinose, 3 mm. long, .25 to .33 mm. thick. Head hemispherical, olivaceous, about 1 mm. diameter. Fertile hyphæ hyaline, dichotomously branched, 2 to 2.5 μ thick, bearing the conidia laterally. Conidia globose or subglobose, yellow-brown under the microscope, 4 to 5.5 μ diameter.

Smaller and of a more slender growth than *P. Petersii* B. & C.

P. Petersii B. & C.
On *Acer saccharum* and *Ilex opaca*, Feb. 10, 1894 (*Nuttall*, 1371).
On *Magnolia Fraseri*, Nov. 1895.

ISARIA Pers.

I. Virginiensis E. & E., Proc. Phila. Acad., 1893, 465.
TYPE HABITAT: On the young stroma of *Hypoxylon rubiginosum?* June 30, 1893 (*Nuttall*, discov. 1109, 95, 102).

Stromata gregarious, simple, slender-clavate, 1.5 to 2 mm. high. Yellowish-white, obtuse and subcapitate at the apex, curved, often decumbent, clothed nearly to the base with spreading, hyaline, dendroid, 1.5 to 2 μ branching hyphæ (sporophores) 40 to 45 x 2.5 μ their tips often toothed and bearing 1 to 4 elliptical or ovate, hyaline 3.5 x 2.5 μ conidia.

Analogous to *I. umbrina* Pers (*Institale acariforme* Fr.), but differs in several respects.

I. clavata Ditm.
On dead sticks on ground, June, 1893 (*Nuttall*, 1110).

CERATIUM A. & S.

C. hydnoides (Jacq.) Alb. & Schw.
On rotten log, June 10, 1893 (*Nuttall*, 976).

SPOROCYBE Fr.

S. Rhois (B. & C.) Sacc.
On *Rhus copallina*, March 24, 1894, spores 7.5 x 2 to 2.5 μ. On *Rhus hirta*, March 28, 1894, spores 10 x 2.5 μ (*Nuttall*, 1430).

S. Azaleæ (Peck) Sacc.
On capsules of *Rhododendron maximum*, Dec. 12, 1893. Conidia varying from globular through elliptical to cylindrical, dark brown, outer coat easily ruptured, 10 x 10, 8 x 5, 12 x 5, 15 x 7.5 μ (*Nuttall*, 1307).

TUBERCULARIACEÆ.

TUBERCULARIA Tode.

T. VULGARIS Tode.
On twigs, Feb. 23, 1893. On *Robinia Pseudacacia*, Dec. 1, 1893. On *Aralia spinosa*, Dec. 13, 1893. On *Sambucus pubens*. On *Acer Negundo*, April 20, 1894 (*Nuttall*, 942). On limbs of dead *Rhus hirta*, Monongalia Co., near Morgantown, 1891 (*Millspaugh*).

T. hamata E. & E., Proc. Phila. Acad., 1894, 386.
TYPE HABITAT: On dead limbs of *Celtis occidentalis*. Feb. 2, 1894 (*Nuttall*, discov. 1357, 313).

Depressed hemispherical, umbonate, soon becoming black, .5 to 1.5 mm. diameter, Conidia oblong, slightly curved, hyaline, 5 to 8 x 1.5 to 2 μ on slender simple sporophores 30 to 40 μ long, incurved or involute at the tips.

T. ———— sp.
On *Asimina triloba*, Feb. 22, 1894. Flesh colored spores 18 to 22 x 3 μ (*Nuttall*, 1391, 361).

T.———— sp.
Conidia of *Nectria verrucosa*. On dead twigs *Morus rubra* July 25, 1895 (*Nuttall*, 1827, 715).

T. Sambuci Corda.
On *Sambucus pubens*, Feb. 26, 1894 (*Nuttall*, 1409).

T. Celastri Schw.
On *Celastrus scandens*, April 25, 1895. Spores 5 to 6 x 2 μ (*Nuttall*, 1811).

DENDRODOCHIUM Bon.

D. affine Sacc.
On bark wet dead stumps, Oct. 24, 1893 (*Nuttall*, 1229, 174).

D. rubellum microsporum Sacc.

On dead limb *Magnolia acuminata*, Aug. 16, 1894, Short Creek, alt. 1,000 ft. On *Liriodendron Tulipifera* (*Nuttall*, 1659).

TUBERCULINA Sacc.

T. persicina (Ditm.) Sacc.

Parasitic on *Uredo* (Cæoma) *nitens*, that on *Rubus Baileyanus* June 10, 1894 (*Nuttall*, 1557, 527).

ILLOSPORIUM Mart

I. cæspitosum E. & E., Proc. Phila. Acad., 1894, 385.

TYPE HABITAT: On rotten log, Nov. 15, 1893 (*Nuttall*, discov. 1286, 231).

Sporodochia globose, 100 to 110 μ diameter, cespitose, forming tufts about 1 mm. diameter. Hyphæ 6 to 8 μ thick, branched, the branches curved or tortuous. Conidia globose or ovate 6 to 12 μ diameter.

Differs from *I coccinellum* Cke. in its color, and larger cespitose sporodochia.

HYMENULA Fr.

H. cerealis E. & E., Proc. Phila. Acad., 1894, 386.

TYPE HABITAT: On wheat straw *Triticum* sp. brought in from Painesville, Ohio, May 24, 1894 (*Nuttall*, discov. 1520, 495).

Sporodochia gelatinous, orbicular, yellowish-amber color becoming darker, at first sub-pulvinate, becoming depressed or flattened, .5 to .75 mm. diameter. Basidia slender, 25 to 30 x 1.25 μ simple or oftener branched. The branches erect. Conidia hyaline, oblong, minute, 3 to 4 x 1 to 1.25 μ.

CYLINDROCOLLA, Bon.

C. DENDROCTONI Peck, Flora, W. Va., 1892, 516.

TYPE HABITAT: On dead insects, *Dendroctonus frontalis*, beneath the bark of pine. Hampshire Co., near Romney, (*Millspaugh*).

The insects are probably killed by this fungus, as they lie dead in their burrows in the inner bark of the tree (*Pinus Virginiana*).

Sporodochia minute, forming irregular masses, soft, somewhat waxy, white or whitish; sporophores slender, abundantly branched above, often compacted below into a short stem-like base, spores catenulate, short cylindrical, subtruncate, colorless, .00016 to .0002 in. long, .00008 to .0001 in. broad.

On some of the insects there is a cottony or flocculent mass of white mycelium interwoven in a somewhat reticulate manner, and collected in strings or bundles. It bears no fruit but is probably a luxuriant growth of the mycelium of this fungus.

Occasionally the fungus seems to spread from the insect to bark immediately adjacent to it.

C. flagellaris E. & E. sp. nov.

TYPE HABITAT: On dead stem of *Helianthus decapetalus* Dec. 3, 1894 (*Nuttall*, discov. 1762, 650).

(*C. lactea* S. & E. partly, Sacc. No. 3550.)

Sporodochia gregarious, subglobose, subhyaline and gelatinous when fresh, lens-shaped, with a thin spreading margin, orbicular, .33 to .50 mm. diameter yellowish-amber color (whitish in the center) when dry. Sporophores densely fasciculate, flagelliform 2 to 3 times dichotomously branched, 80 to 100 μ long, separating into the short cylindrical, hyaline, 4 to 5 x 1 μ conidia.

This was included by Saccardo in Michelia II, p. 581, in *Cylindrocolla lactea*, S. &. E. (on rotten wood of *Kalmia*), but differs in the shape and color of the sporodochia and the sporophores only 2 to 3 times dichotomously branch. *C. lactea* retains its white color when dry, and resembles young *Lasiosphæria ovina.*

SCORIOMYCES Ell. & Sacc.

S. Cragini E. & S.

Under loose bark of dead *Hicoria* sp., Short Creek, alt. 1,250 ft., Nov. 21, 1893 (*Nuttall*, 1272, 219).

VOLUTELLA Tode.

V. ciliata (A. & S.) Fr.

On decaying leaves of *Prunus* cult. in grass, June 20, 1893 (*Nuttall*, 1010).

BACTRIDIUM Kunze.

B. FLAVUM K. & S.

Under decaying bark of *Quercus alba*, Monongalia Co., near Morgantown (*Millspaugh*).

HELISCUS Sacc.

H. Lugdunensis Sacc.

On dead limbs of *Ilex opaca*, thrown in wet places one year previously, March 16, 1894; sporodochia + 2 mm. diameter, conidia 30 to 33 x 5 μ (*Nuttall*, 1427, 400).

FUSARIUM Link.

F. CULMORUM Smith.

On heads of ripe living wheat. Monongalia Co., Laurel Point (*Millspaugh*).

"This specimen combines the characters of a number of so-called species, making it difficult to say which it really is. Probably they are all forms of one species." Professor Peck (in letter).

F. sarcochroum (Desm.) Sacc.

On *Acer Negundo*, April 24, 1894 (*Nuttall*, 1482, 462).

F. roseum Link.

On follicles of *Asclepias Syriaca*, May 31, 1894. Conidia 55 x 4 μ + 6-septate (*Nuttall*, 1530, 503).

F. SOLANI Mart.

Found associated with "black rot" on Tomato fruits that have fallen to the ground. Monongalia Co., at Morgantown, 1891 (*Millspaugh*).

F. roseum —— Var. nov?

On dead fruit of *Diospyros Virginiana*, Aug. 1895 (*Nuttall*, 1831, 721).

F. ——— — — sp.

On stems of *Asparagus officinalis*, Oct. 28, 1893. Color, light pink. Conidia oblong to obovate 7.5 to 10 x 2.5 μ (*Nuttall*, 1239, 1248, 185).

MICROCERA Desm.

M. erumpens E. & E., Proc. Phila. Acad., 1894, 386.

TYPE HABITAT: On dead limbs of *Tsuga Canadensis*, March, 1895 (*Nuttall*, discov. 1398, 371).

Sporodochia scattered, depressed-globose, .5 mm. diameter, at first covered by the epidermis, raising it into little whitish pustules, then erumpent and closely embraced by the ruptured epidermis, at first orange-red, then becoming nearly black, and finally leaving subcupuliform cavities in the bark, when dry. Conidia falcate to fusiform, multinucleate, and finally three or more septate, 60 to 83 x 3 to 4.5 μ hyaline, narrowing to a slender point at each end, borne on short sporophores (20 to 35 μ), which are more or less branched above.

Differs from *M. coccophila* Desm. in the shape of the sporodochia and their subcuticular origin.

(The additional description, incorporated in this relation of the specific characters, is by E. & E.)

EPICOCCUM Link.

E. purpurascens Ehrenb.

On cardboard box in grass, April 13, 1894 (*Nuttall*, 1453).

E. NEGLECTUM Desm.

On living leaves of *Avena sativa* and *Catalpa Catalpa*, Monongalia Co., at Morgantown, 1891 (*Millspaugh*).

E. Durisæanum Mont.

Underside of outer bark of *Robinia Pseudacacia*, Nov. 10, 1893 (*Nuttall*, 1285, 229).

EPIDOCHIUM Fries.

E. melanochlorum Desm. ?

On *Carex Fraseri*, Feb. 11, 1894 (*Nuttall*, 1376, 337).

TRIMMATOSTROMA Corda.

T. Americana Thum.

On *Salix nigra*, March 21, 1894 (*Nuttall*, 1437, 410).

HYPHELIA Fries.

H. terrestris Fr.

On damp ground. June 18, 1893 (*Nuttall*, 1016).

SPHÆROPSIDEÆ.

SPHÆRIOIDAECÆ.

PHYLLOSTICTA Pers.

P. Paviæ E. & E.

On *Aesculus octandra hybrida* and *Hamamelis Virginica*, June 10, 1894 (*Nuttall*, 1539). (*P. sphæropsidea E. & E.*)

P. caryigena Sacc.

P. Caryæ E. & E. On living leaves of *Hicoria avata* and *H. microcarpa*, June 30, 1894 (*Nuttall*, 1580).

P. Celtidis E. &. K.

On living leaves of *Celtis occidentalis*, Oct. 10, 1894 (*Nuttall*, 1715, 603).

P. Hamamelidis Pk.

On living leaves of *Hamamelis Virginica*, June 10, 1894 (*Nuttall*, 1556).

P. Catalpæ E. & M.

On living leaves of *Catalpa Catalpa*, July 25, 1895 (*Nuttall*, 1623).

P. Sanguinariæ Wint.

On living leaves of *Sanguinaria Canadensis*, June 29, 1894 (*Nuttall*, 1567).

P. Ipomœæ E. & K.

On *Ipomœa pandurata*, Sept. 19, 1895. Spores 5 to 10 x 2 to 2.5 μ (*Nuttall*, 1861, 749).

P. Haynaldi Roum.

On *Ilex verticillata*. Oct. 5, 1895. Spores 5 to 8 x 2.5 to 3 μ (*Nuttall*, 1872, 756).

P. Ribis E. & E. sp. nov.

TYPE HABITAT: On leaves of *Ribes* cult. Oct. 21, 1895 (*Nuttall* discov., 1882, 768).

Spots large, irregular in shape, .5 to 1 cm., or often confluent along the margin of the leaf for 2 cm., rusty brown, becoming whitish or grayish, and mostly zonate, definite but without any differently colored border. Perithecia epiphyllous, scattered, 150 to 200 μ diameter, the apex prominent and black. Sporules oblong-elliptical, hyaline, granular and nucleate, 15 to 22 x 6 to 9 μ.

Distinguished from *P. ribicola* Fr., and *P. Grossulariæ* Sacc. by its much larger sporules.

P. Galacis (Cke).*
On leaves of *Galax aphylla*, May 4, 1894 (*Nuttall*, 1486, 474).

P. Ipomœæ E. & K.
On *Ipomœa pandurata*, Sept. 19, 1895. Spores 5 to 10 x 2 to 2.5 μ (*Nuttall*, 1861, 749).

P. Haynaldi Roum.
On *Ilex verticillata*, Oct. 5, 1895. Spores 5 to 8 x 2.5 to 3 μ (*Nuttall*, 1872, 756).

P. Ampelopsidis E. & M.
On *Parthenocissus quinquefolia*, June 18, 1893 (*Nuttall*, 1014).

P. ASIMINÆ E. & K.
On living leaves *Asimïna triloba*, Monongalia Co. near Camp Eden, 1891 (*Millspaugh*). On same host June 1, 1894, spores 8 to 10 x 6 μ (*Nuttall*, 1517).

P. Quercus-prini E. & E., Proc. Phila. Acad., 1894, 356.
TYPE HABITAT: On leaves *Quercus Prinus*, June 29, 1894 (*Nuttall*, discov. 1594, 542).

Spots orbicular, rusty brown, definite, with a very narrow border, 2 to 3 mm. diameter. Perithecia epiphyllous, scattered, erumpent, 90 to 110 μ diameter. Sporules ovate or oblong, hyaline, mostly a little curved, 5 to 6.5 x 2 to 2.5 μ.

This comes very near *Ph. Ludoviciana* E. & E., but in that species the spots are larger, perithecia more prominent below, and sporules rather larger. *Ph. marginalis* E. & E. also has similar sporules, but the perithecia are hypophyllous.

P. macrospora E. & E., Proc. Phila. Acad., 1894, 355.
TYPE HABITAT: On leaves of *Liriodendron Tulipifera*, Aug. 7, 1894 (*Nuttall*, discov. 1654, 574).

Spots few, suborbicular, ferruginous-gray, 3 to 5 mm. diameter, with a narrow, raised, darker border. Sporules oblong elliptical hyaline, nucleate, 15 to 30 (mostly 20 to 25) x 6 to 7 μ.

P. pirina Sacc.
On leaves *Pyrus Malus*, at Blue Sulphur Springs, July 25, 1894 (*Nuttall*, 1624).

P. Rosæ Desm.
On *Rosa humilis*. Spores 6 to 7.5 x 2.5 μ Sept. 18, 1895 (*Nuttall*, 1863).

P. gentianicola (DC).
On leaves of *Gentiana Andrewsii*, Sept. 19, 1895. Spores oval, 7.5 x 5 μ (*Nuttall*, 1857).

P. rhoicola E. & E., Proc. Phila. Acad., 1894, 356.
TYPE HABITAT: Rare, on leaves *Rhus radicans*, Aug. 18, 1894 (*Nuttall*, discov. 1668, 567 in part).

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* *Phoma Galacis* Cke., Messrs. Ellis & Everhart decide from our specimens that this species belongs in Phyllosticta.

Spots 4 to 6 mm. diameter, deciduous, grayish-white, with a narrow black border. Perithecia epiphyllous, scattered, 100 to 110 μ diameter, convex-prominent above, visible also below. Sporules narrow-elliptical, hyaline, 2-nucleate, 5 to 6 x 2 to 3 μ.

Differs from *P. toxica*, E. & M., in its larger deciduous spots with a narrow border, and its narrow-elliptical sporules.

P. lindericola E. & E., Proc. Phila. Acad., 1894, 354.

TYPE HABITAT: On leaves *Benzoin Benzoin*, Aug. 26, 1894 (*Nuttall*, discov. 1688, 593).

Spots various; punctiform and minute without any definite border, often irregular in shape 1 mm. to 1 or 1.5 cm. diameter, or marginal, forming a narrow strip along the edge of the leaf for half its length, pale brown, nearly the color of weather-beaten wood, with a dark (almost black) border. Perithecia epiphyllous, hemispherical, 100 to 120 μ diameter, covered by the blackened epidermis which is raised into pustules barely pierced at the apex. Sporules oblong-elliptical, hyaline, 4 to 7 x 2 to 3 μ.

This differs in almost every respect from *Ph. Linderæ* E. & E.

P. Smilacis subeffusa E. & E.

On *Smilax rotundifolia*, Sept. 21, 1894 (*Nuttall*, 1701, 594). Perithecia scattered over surface of dead dry leaves of the host.

P. Oxydendri E. &. E., sp. nov.

TYPE HABITAT: On leaves of *Oxydendron arboreum*, Oct. 10, 1894 (*Nuttall*, discov. 1717, 605).

Spots suborbicular or elliptical, reddish-gray, 3 to 8 mm. diameter, with a narrow, slightly raised dark red border, beyond which the leaf is generally shaded reddish-purple. Perithecia epiphyllous, subapplanate, 100 to 120 μ diameter. Sporules oblong-elliptical, 2-nucleate, hyaline, 7 to 8 x 2.5 to 3 μ. The spots finally become of a lighter, dirty-white color.

P. Celastri E. & E., sp. nov.

TYPE HABITAT: On leaves *Celastrus scandens*, Oct., 1894 (*Nuttall*, discov. 1718, 606).

Spots mostly marginal, 8.5 to 1 cm. diameter, ferruginous, definite, with a narrow, darker border. Perithecia epiphyllous, subapplanate, 150 μ diameter. Sporules oblong, 7 to 10 x 2 to 2.5 μ hyaline, 2-nucleate.

P. globifera E. & E., sp. nov.

TYPE HABITAT: On leaves *Cornus florida*, Oct. 24, 1894 (*Nuttall*, discov. 1728, 615).

Spots marginal, light-brown, continuous, extending across the tip of the leaf and partly down each side, 5 to 1 cm. wide, separated from the green part of the leaf by a narrow, purple margin. Perithecia amphigenous, discoid, black, 100 to 112 μ diameter. Sporules globose or short-elliptical, hyaline, granular, 6 to 8 x 5 to 6 μ.

P. Negundinis Sacc.

On *Acer Negundo*, July 5, 1894. Sporules 5 to 10 x 3 to 7.5 μ (*Nuttall*, 1631, 560, 561).

P. ———— sp.

On *Geum Canadense*, Oct. 24, 1894 (*Nuttall*, 1733). Spores irregular 4 to 7.5 x 1.5 to 2.5 μ 2-nucleate.

P. ACERICOLA E. & E.

On living leaves *Acer saccharinum*, Putnam Co., near Buffalo, 1891 (*Millspaugh*). On leaves *A. rubrum*, June 24, 1894 (*Nuttall*, 1561).

P. Xanthorrhizæ E. & Nuttall, sp. nov.

TYPE HABITAT: On leaves *Xanthorrhiza apiifolia*, Nov. 3, 1893 (*Nuttall*, discov. 1738, 625).

Spots subelliptical, dirty-white in the center with a dark shaded margin, 3 mm. to 1 cm. long x 2 to 8 mm. wide, finally more or less deciduous. Perithecia seated on the white part of the spots, epiphyllous, subdiscoid, perforated above, 60 to 75 μ diameter. Sporules oblong-elliptical, hyaline, 2-nucleate, 5 to 6 x 2.5 to 3 μ.

Accompanied by a Macrosporium on the same spots.

P. ———— sp.

On leaves *Rubus Canadensis*, Nov. 3, 1894. Sporules variable in form, 5 x 1.25 to 2 μ (*Nuttall*, 1747, 627).

P. cercidicola E. & E., sp. nov.

TYPE HABITAT: On leaves *Cercis Canadensis*, Nov. 21, 1894 (*Nuttall*, discov. 1751).

Spots suborbicular, .5 to 1 cm. diameter, rusty-brown, becoming lighter, paler below, margin narrow reddish-purple. Perithecia epiphyllous, convex, suberumpent, but covered (except the apex) by the epidermis, 110 to 150 μ diameter. Sporules oblong, slightly narrowed and rounded or obtusely pointed at the ends, hyaline, 2 to 3-nucleate, 15 to 20 x 6 to 7 μ.

Differs in the character of the spots, and in the presence of a perithecium, from *Glœosporium Cercidis*, E. & E.

P. Araliæ E. & E., Proc. Phila. Acad., 1894, 355.

TYPE HABITAT: On leaves *Aralia spinosa*, Sept. 20, 1895 (*Nuttall*, discov. 1703, 598, 588?).

Spots suborbicular, light-brown with the margin a little darker, .5 to 1 cm. diameter. Perithecia epiphyllous, somewhat flattened, 100 to 150 μ diameter. Sporules oblong-elliptical, hyaline, 2-nucleate, 10 to 15 x 5 to 6 μ.

P. Sassafras Cooke.

On leaves *Sassafras Sassafras*, June 28, 1894. Sporules 5 to 7 x 2 to 3 μ (*Nuttall*, 1566).

P. Sambuci Desm.

On leaves *Sambucus Canadensis*, July 20, 1894 (*Nuttall*, 1614).

P. LABRUSCÆ Thum.

On living leaves *Vitis* cult. (Concord), Wood Co., near Lockhart's Run, 1891 (*Millspaugh*). On leaves of *V. æstivalis* and *rupestris*, June 29, 1894 (*Nuttall*, 1569).

P. cornicola (D. C.) Rabh.
On *Cornus florida*, Nov. 5, 1894 (*Nuttall*, 1748, 638).

P. Cookei Sacc.
On leaves *Magnolia acuminata*, Aug. 9, 1894. Sporules 15 to 20 x 6 to 7.5 μ (*Nuttall*, 1655, 577).

P. Tiliæ Sacc.
On leaves *Tilia Americana*, Aug. 10, 1894. Sporules 7 to 8 x 2.5 to 3 μ (*Nuttall*, 1672, 579).

P. Chionanthi Thum.
On *Chionanthus Virginica*, Aug. 10, 1895. Spots darker than in type (from Portugal). Spores round or oval, 5 μ or 7.5 x 5 μ (*Nuttall*, 1833, 724).

P. liriodendrica Sacc.
On leaves *Liriodendron Tulipifera*, June 16 and Oct. 29, 1894. Sporules 7.5 to 10 x 2 to 3 μ (*Nuttall*, 1571). *P. Liriodendri*, Cke.

P. Ulmi West?
On leaves *Ulmus pubescens*, July 9, 1894. Sporules + 16 x 7.5 μ (*Nuttall*, 1631, 563).

P. phomiformis Sacc.
On leaves *Quercus Prinus* and *Q. alba*, July 4, 1894. Sporules 15 to 30 x 6 to 8 μ (*Nuttall*, 1585).

P. Castaneæ E. & E., Proc. Phila. Acad., 1894, 357.
TYPE HABITAT: On leaves *Castanea pumila* (not on *Castanea vesca* as originally published), July 26, 1894 (*Nuttall*, discov. 1639, 570).

Spots orbicular, rust-color, with narrow dark-shaded margin. Perithecia epiphyllous, scattered on the spots, dark, semierumpent, 100 μ diameter, often collapsing. Sporules oblong, hyaline, 5 to 7 x 2 to 2.5 μ.

P. Lappæ Sacc.
On *Arctium Lappa*, July 20, 1894 (*Nuttall*, 1613).

P. Dioscoreæ Cooke.
On leaves *Dioscorea villosa*, June 29, 1894 (*Nuttall*, 1570).

P. opaca E. & E. sp. nov.
TYPE HABITAT: On leaves of *Ilex opaca*. Oct. 5, 1895 (*Nuttall*, discov., 1881).

Spots mostly marginal or terminal, of irregular shape, 1 to 2 cm. across, dirty-white, with a raised subferruginous narrow border. Perithecia evenly scattered, subepidermal, sublenticular, black, raising the epidermis into pustules, 200 μ diameter. Sporules elliptical, hyaline, 3 x 1.5 μ.

Differs from *P. Ilicis* E. & E. only in its minute sporules.

PHOMA Fries.

P. — — ——— sp.
On *Opulaster opulifolius*, May 7, 1894 (*Nuttall*, 1510, 494). Spores 7 to 10 x 2.5 to 3 μ.

P. negundinicola ramicola E. & E., Proc. Phila. Acad., 1894, 357.

TYPE HABITAT: On dead twigs *Acer Negundo,* April, 1894 (*Nuttall,* discov. 1483, 465, 466?).

Perithecia evenly but not thickly scattered, globose, small, .25 to .33 mm. diameter, covered by the slightly ruptured epidermis, but distinctly prominent. Sporules oblong, elliptical, or ovate, hyaline, with a single large nucleus, 10 to 13 x 4 to 5.5 μ.

Differs from the typical form, on the dead peduncles, in its broader sporules, the former being but 2.5 to 3 μ.

P. Pennsylvanica E. & E., Proc. Phila. Acad., 1894, 357.

TYPE HABITAT: On dead limbs *Acer Pennsylvanicum,* Feb. 2, 1894 (*Nuttall,* discov. 1361, 318).

Perithecia numerous, evenly scattered, subepidermal, .33 to .5 mm. diameter, whitish inside, raising the epidermis into minute pustules, but scarcely rupturing it. Sporules subglobose, 6 to 7.5 μ diameter, nearly hyaline.

P. Asclepiadea E. & E., sp. nov.

TYPE HABITAT: On dead stems of *Asclepias Syriaca,* Oct. 10, 1894 (*Nuttall,* discov. 1717, 604).

Perithecia thickly but evenly scattered, subelliptical, 110 to 120 μ in the longer diameter, subcuticular, covered by the blackened epidermis, which is raised into minute pustules but scarcely ruptured. Sporules oblong-elliptical, 2-nucleate, hyaline, 5 to 6 x 2 to 2.5 μ. On curved (almost hooked) basidia 12 to 15 μ long.

Differs from the next form which occurs with it on the same stems, in its larger perithecia and sporules and its curved basidia.

P. ———————— sp.

On dead stems *Asclepias Syriaca,* Oct. 10, 1894 (*Nuttall*).

P. melaleuca B. & C.

On petioles *Aralia spinosa,* April 25, 1895 (*Nuttall,* 1810).

P. leucostoma Lév.

On *Opulaster opulifolius,* May 13, 1894. Sporules 2.5 to 4 x 1 μ (*Nuttall,* 1506, 487).

P. mixta B. & C.

On fire-killed *Liriodendron Tulipifera,* Oct. 16, 1894. Sporules appendiculate at each end, 2-nucleate, 7 to 10 x 2 to 3 μ, oblong fusoid; the accompanying filiform process hooked at the apex, 20 x .75 to 1.5 μ (*Nuttall,* 1709).

P. scabra Sacc.

On *Platanus occidentalis,* March 30, 1894 (*Nuttall,* 1459, 434).

P. obscurans E. & E., Proc. Phila. Acad., 1894, 357.

TYPE HABITAT: On leaves of *Fragaria* cult., July 8, 1894 (*Nuttall,* discov. 1600, 554).

Spots 5 to 8 mm. diameter, with a ferruginous center and broad purple border, paler below. Perithecia few, scattered, convex-prominent. Sporules oblong-elliptical, hyaline 2-nucleate, 4.5 to 5.5 x 1.5 to 2 μ. Basidia simple, lanceolate-fusoid, 8 to 12 x 1.5 μ.

Phyllosticta fragaricola Desm. has similar sporules, but the spots are much smaller, with a white center. The basidia also indicate *Phoma* and not *Phyllosticta*.

P. ilicicola (C. & E.) Sacc.
On leaves of *Ilex opaca*, June 18, 1893 (*Nuttall*, 1017).

P. Spiraeae Desm?
On *Opulaster opulifolius*, May 13, 1894. Sporules 10 to 13 x 2 μ (*Nuttall*, 1508, 489).

P. herbarum West.
On *Onagra biennis*, March 18, 1894 (*Nuttall*, 1435, 406).

P. Phytolaccae B. & C.
On stems *Phytolacca decandra*, July 31, 1893 (*Nuttall*, 1140).

P. pedunculi E. & E., Proc. Phila. Acad., 1894, 357.
TYPE HABITAT: On old peduncles *Magnolia Fraseri*, Jan., 1894 (*Nuttall*, discov. 1339, 297).

Perithecia scattered, flattish pustuliform, .5 to .75 mm. diameter, with a prominent papilliform ostiolum. Sporules fusoid-oblong, hyaline, 2 to 3 nucleate, 7 to 11 x 2 to 2.5 μ ends acute.

Differs from *Stagonospora pedunculi* in its larger, flatter perithecia and fusoid-oblong (not cylindrical), rather shorter sporules.

P. uvicola B. & C.
On *Vitis* cult. (Concord), July 4, 1893 (*Nuttall*, 1108, 94).

P. nyssaecarpa Cooke.
On dead limbs *Nyssa aquatica*, April 15, 1895 (*Nuttall*, 1809, 696). Sporules 10 x 3 μ.

P. samararum Desm.
On samaras *Acer Pennsylvanicum*, Feb. 2, 1894 (*Nuttall*, 1363, 321).

P. smilacina (Peck) Sacc.
On *Smilax rotundifolia*, Aug. 17, 1894. Sporules about 18 x 6 to 7.5 μ (*Nuttall*, 1660).

APOSPHÆRIA Berk.

A. pezizoides E. & E., Proc. Phila. Acad., 1894, 358.
TYPE HABITAT: On decorticated trunks of *Platanus occidentalis*, *Salix nigra falcata*, *Betula nigra*, *Fraxinus sp.*, and *Liquidambar Styraciflua*, on abrasions made by driftwood and ice, where it seems to grow exclusively and always below high-water mark, April, 1894 (*Nuttall*, discov. 1458, 432).

Perithecia erumpent-superficial, seriate-aggregate, hemispherical, about .75 mm. diameter, with a distinct papilliform ostiolum, at length collapsing and pezizoid or discoid. Sporules elliptical or ovoid, 4 to 6 x 2.5 μ ends obtuse.

DENDROPHOMA Sacc.

D. Therryana Sacc. & Roum.
On *Platanus occidentalis*, April 19, 1894 (*Nuttall*, 1463).

SPHÆRONÆMA Fries.

S. Physocarpi E. & E., Proc. Phila. Acad., 1894, 358.

TYPE HABITAT: On dead stems *Opulaster opulifolius*, May, 1894 (*Nuttall*, discov. 1504, 484).

Perithecia gregarious, erumpent-superficial, hemispherical, 150 µ diameter, with a straight, stout beak 90 to 115 µ long. Sporules narrow-elliptical, hyaline, 2 to 3-nucleate, 7 to 9 x 2.5 µ.

S. infuscans E. & E. sp. nov.

TYPE HABITAT: On dead dry wood *Juglans cinerea.*, Dec. 5, 1894 (*Nuttall*, discov. 1766, 661).

Perithecia gregarious, erumpent-superficial, hemispherical, brownish-black, about .25 mm. diameter, with a short cylindrical (.33 mm.), shining-black, obtuse, perforated ostiolum. Sporules abundant, elliptical, continuous, hyaline 3 to 4 x 1.5 µ on basidia simple or branched below, about 12 µ long and .5 µ thick at the base, narrowed above.

The surface of the wood is blackened.

S. acerinum Peck.
On *Acer rubrum*, June 12, 1894 (*Nuttall*, 1543).

S. corneum C. & E.
On *Onagra biennis*, Jan. 21, 1895 (*Nuttall*, 1791, 682 in part).

S. Magnoliæ Peck.
On *Magnolia acuminata*, Short Creek, alt. 1,000 ft., Aug. 16, 1894 (*Nuttall*, 1658). Sporules 10 x 6 µ nucleus large.

SIROCOCCUS Preuss.

S. Halesiæ E. & E., Proc. Phila. Acad., 1894, 358.

On dead limbs *Mohrodendron Carolinum* (*Halesia tetraptera*), Feb. 26, 1894 (*Nuttall*, discov. 1407, 377, 376?).

Perithecia scattered, or 2 to 3-cornate, erumpent, subglobose, about .33 mm. diameter, black, with a minute papilliform ostiolum. Sporules subglobose, about 3 µ diameter, greenish-hyaline, 3 to 6-concatenate, the terminal sporule oblong and paler. Chains simple or sparingly branched, arising directly from the proliferous layer without any distinct basidia, collected in stellate clusters.

VERMICULARIA Fries.

V. phlogina Fairm.
On dead leaves *Phlox amœna*, Sept. 15, 1894 (*Nuttall* 1606).

V. compacta C. & E.
On *Rubus odoratus*, May 30, 1894; sporules 20 to 25 x 30 µ (*Nuttall*, 1513). On *Caulophyllum thalictroides* (552).

V. petiolorum Schw.
On *Aralia spinosa*, and on *Robinia Pseudacacia?* Feb. 17, 1894 (*Nuttall*, 1388, 356).

V. Toxica E. & E., sp. nov?
On *Rhus radicans*, Aug. 18, 1894 (*Nuttall*, 1669, 569).

V. Dematium (Pers.) Fr.
On *Cassia Marilandica*, Oct. 28, 1893 (*Nuttall*, 1251, 193). On *Heuchera Americana*.

V. Dematium ——— ——— var.
On *Onagra biennis*, March 9, 1894 (*Nuttall*, 1434, 405).

V. Arctii Schw.
On dead leaves and petioles *Arctium Lappa*, on ground, July 21, 1894. Sporules fusiform slightly curved + or — 20 x 3 μ. Setæ 35 to + 125 x 3 to 5 μ (*Nuttall*, 1617).

V. subeffigurata Schw.
On fruit peduncles *Magnolia Fraseri* in association with STAGONOSPORA PEDUNCULI E. & E., July 25, 1893 (*Nuttall*, 1136).

V. subeffigurata scapincola Schw.
Bases of dead leaves *Yucca filamentosa* cult., Feb. 19, 1894. Sporules 18 x 2.5 μ, largest setæ 200 μ (*Nuttall*, 1367).

V. Trautvetteriæ Nuttall, sp. nov.
TYPE HABITAT: On dead leaves *Trautvetteria Carolinensis*, July 15, 1894 (*Nuttall*, discov. 1633).

Perithecia very small, scattered. Sporules curved, sharp pointed, 18 to 25 x 2.5 to 3 μ. Setæ + 100 x 10 μ.

V. liliacearum West.
On *Asparagus officinalis*, *Vagnera racemosa*, *Clintonia umbellulata* and *Iris cristata?* Nov. 1, 1893 (*Nuttall*, 1241, 188).

DOTHIORELLA Sacc.

D. Asiminæ E. & E., sp. nov.
On *Asimina triloba*, Feb. 2, 1894 (*Nuttall*, 1392, 362).

Sporules 5 to 7 x 2 to 3 μ oval or oblong, some of them slightly curved. Perithecia suberumpent, seriate, .25 mm. diameter, white inside and out, ovoid, in series of 3 to 5, raising the epidermis into short ridges split along the top so as to expose the pallid white apices of the perithecia. Sporules oval or elliptical, hyaline, 5 to 7 x 2 to 3 μ.

D. minor E. & E., sp. nov.
TYPE HABITAT: On dead limbs *Liriodendron Tulipifera* April 11, 1895 (*Nuttall*, discov. 1804, 691).

Perithecia seriate-subconfluent, .5 to .75 mm. diameter, irregularly ruptured above, white inside, erumpent, splitting the epidermis into short (2 to 4 mm.) longitudinal cracks. Sporules elliptical, hyaline continuous, 5 to 7.5 x 3 to 3.5 μ. Differs from *D. Liriodendri*, Cke. in its much smaller sporules.

D. glandulosa (Cooke) Sacc?
On *Robinia Pseudacacia*, March 14, 1894 (*Nuttall*, 1423, 395).

FUSICOCCUM Corda.

F. ilicinum E. & E., Proc. Phila. Acad., 1894, 359.
TYPE HABITAT: On dying, transplanted, *Ilex opaca* (transplanted Dec. 28, 1893), May 24, 1894 (*Nuttall*, discov. 1521, 496).

Stromata cortical, convex, about 1 or 1.5 mm. diameter, multilocular, whitish inside, the tuberculiform apex pierced with a single pore, rupturing the epidermis and slightly raising it. Sporules fusoid, hyaline, nucleate 15 to 22 x 2.5 to 3 μ.

CYTISPORA Ehrenb.

C. Celtidis E. & E., Proc. Phila. Acad., 1894, 360.
TYPE HABITAT: On dead limbs *Celtis occidentalis*, Feb. 2, 1894 (*Nuttall*, discov. 1358, 314).

Stroma valsoid, flat, thin, 1.5 to 2 mm. diameter, only penetrating the surface of the bark, multilocular, gray inside, raising the bark into small pustules, and finally rupturing it, cells resembling perithecia. Sporules allantoid, 6 to 7 x 1 to 1.5 μ.

C. Halesiæ E. & E., Proc. Phila. Acad., 1894, 361.
TYPE HABITAT: On dead limbs of *Mohrodendron Carolinum* (*Halesia tetraptera*), June 7, 1894 (*Nuttall*, discov. 1540).

Stromata convex-conical, sunk in the bark, orbicular, about 1 mm. diameter, white inside, unilocular, the inner surface of the cavity lined with simple, straight basidia about 15 μ long, bearing the oblong-fusoid, hyaline, 2-nucleate, straight, 5 to 7 x 1 to 1.5 μ sporules, which are expelled through a single orifice perforating the raised epidermis.

This probably is the spermogonial stage of *Diaporthe Halesiæ* or *D. tetraptera*, both of which are found in company with it.

C. leucostoma (Pers.) Sacc.
On cultivated *Prunus domestica* and *Amygdalus Persica*, Dec. 12, 1894 (*Nuttall*, 1769).

C. exasperans E. & E., Proc. Phila. Acad., 1894, 360.
TYPE HABITAT: On dead limbs *Acer Pennsylvanicum*, Feb. 2, 1894, Short Creek, alt. 1,300 ft. (*Nuttall*, discov. 1366).

Stroma buried in the bark, orbicular, about 1 mm. diameter, 4 to 6-celled (at length one-celled), prolonged above into a stout, conical beak opening by a single round pore at the apex. Sporules oblong or allantoid, hyaline, 5 to 7 x 1.25 μ.

C. ————sp.
On *Chionanthus Virginica*, March 28, 1894 (*Nuttall*, 1455, 427).

C. Persicæ Schw.
On *Amygdalus Persica* cult. "Early Rivers," June 30, 1893 (*Nuttall*, 1106).

C. ——— sp.
On *Cercis Canadensis*, April 10, 1894 (*Nuttall*, 1471, 447). Spores 5 to 6 x .75 μ.

C. rhoina Fr.
On *Rhus hirta*, June 20, 1894. Sporules 5 to 8 μ (*Nuttall*, 1551, 636).

C. caryigena E. & E., Proc. Phila. Acad., 1894, 359.
TYPE HABITAT: On dead limbs *Hicoria ovata*, May 31, 1894 (*Nuttall*, discov. 1524, 513).
Stroma cortical, convex, 1.5 to 2 mm. diameter, slaty-black, 4 to 6-celled, cells yellowish-white, subglobose, small. Sporules allantoid, hyaline 3.5 to 4.5 x .75 to 1 μ.
(Spermogonia of *Valsa caryigena*, B. & C.)?

C. Rhois-hirtæ Nuttall, sp. nov.
On *Rhus hirta*, June 10, 1894 (*Nuttall*, 1533, 635).
This form is clearly distinct from *C. Rhoina* Fr. Cirrus reddish yellow. Perithecia very prominent. Spores 8 to 10 x 2 to 2.5 μ.

C. Sassafras E. & E. sp. nov.
TYPE HABITAT: On fire-killed twigs of *Sassafras Sassafras*, Dec. 20, 1894 (*Nuttall*, discov. 1766, 666). Jamaica, Long Island (F.C. Stewart).
Stromata thickly scattered, conical, rising from an orbicular base about 1 mm. diameter, the black, shining apices erumpent and roughening the bark, at first multilocular, becoming unilocular. Sporules allantoid, hyaline, only slightly curved, 4 to 5 x 1 μ borne on simple, straight basidia about 12 μ long.

C. betulina Ehr?
On *Betula nigra*, Feb. 20, 1894. Cirrus yellowish, sporules, 4 to 6 x 1 μ (*Nuttall*, 1396, 367).

C. Salicis (Corda) Rabenh?
On *Salix nigra*, March 22, 1894 (*Nuttall*, 1429).

C. Platani Fckl.
On *Platanus occidentalis*, March 14, 1894 (*Nuttall*, 1424, 396)

C. leucosperma (Pers) Fr.
On *Carpinus Caroliniana*, Nov. 17, 1893. Sporules 5 x 1 μ (*Nuttall*, 1257).

C. ceratophora Sacc.
On *Fraxinus Pennsylvanica*, Oct. 17, 1893 (*Nuttall*, 1234, 163).

C. Curreyi Sacc?
On *Pinus Virginiana*, Dec. 13, 1844; on *Tsuga Canadensis*, April 15, 1895 (*Nuttall*, 1771, 697).

C. coccinea (Reb.) Fr.
On *Robinia Pseudacacia*, Feb. 2, 1894. Sporules 3 x .75 μ (*Nuttall*, 1355).

C. ———— sp.
Spermogonia of *Valsa goniostoma* Sz.? On fire-killed *Liquidambar Styraciflua*, Oct. 21, 1895 (*Nuttall*, 1884).

C. orthospora B. & C?
On *Robinia Pseudacacia*, April 20, 1894. Sporules irregular in shape 12 to 18 x 2.5 to 3 μ (*Nuttall*, 1478, 458).

C. carphosperma Fr.
On *Asimina triloba*, Nov. 5, 1893 (*Nuttall*, 1292, 237).

SPHÆROPSIS Lév.

S. Linderæ Peck.
On dead twigs *Benzoin Benzoin*, April 8, 1895 (*Nuttall*, 1795).

S. Asiminæ E. & E., Proc. Phila. Acad., 1894, 361.
TYPE HABITAT: On dead limbs *Asimina triloba*, Feb. 24, 1894 (*Nuttall*, discov. 1397, 370).

Perithecia scattered or subseriate, buried in the bark which is raised into little pustules over them and soon ruptured. Perithecia small (.25 mm.) thick-walled, with an obscurely papilliform ostiolum. Sporules oblong-elliptical, brown, obtuse, 18 to 22 x 8 to 10 μ.

S. Asiminæ fructigena E. & E. var. nov.
TYPE HABITAT: On old dried-up fruits of *Asimina triloba*, Oct. 3, 1895 (*Nuttall*, discov. 1871, 755).

A fructigenous form of *S. Asiminæ* E. & E. Perithecia smaller than in the species (110 to 140 μ) and more abundant. Sporules a little larger (20 to 24 x 9 to 12 μ).

S. Ampelopsidis C. & E.
On *Parthenocissus quinquefolia*, March 30, 1894. Sporules 18 to 20 x 10 to 12 μ (*Nuttall*, 1460, 437).

S. cerasina Peck.
On *Prunus serotina*, alt. 1,200 ft., Nov. 22, 1894 (*Nuttall*, 1746).

S. Physocarpi E. & E., Proc. Phila. Acad., 1894, 361.
TYPE HABITAT: On dead *Opulaster opulifolius*, May 2, 1894 (*Nuttall*, discov. 1502, 482, 486).

Perithecia scattered, .33 mm. diameter, buried in the inner bark, with their apices and papilliform ostiola erumpent, white inside (at first), sometimes, as in the preceding species 2 to 3 confluent. Sporules varying from short-elliptical 12 to 15 x 10 μ to oblong or obovate-elliptical 15 to 20 x 10 μ.

Differs from *S. Niellia* E. & E. in its buried perithecia and much larger sporules.

S. celastrina Peck.
On branches *Celastrus scandens*, April 27, 1895 (*Nuttall*, 1812).

S. Œnotheræ E. & E., sp. nov.

TYPE HABITAT: On dead stems *Onagra biennis*, Jan. 21, 1895 (*Nuttall*, discov. 1792, 683).

Perithecia scattered, erumpent, superficial, globose, 200 to 225 μ diameter, with a papilliform ostiolum, occasionally subcollapsing above. Sporules oblong-elliptical, pale brown, 20 to 25 x 10 to 12 μ on stout basidia shorter than the sporules. There are indications that the sporules become finally uniseptate.

S. Sumachi (Schw.) C. & E.

On branches *Rhus hirta*, March 29, 1894. Sporules 20 to 26 x 8 to 12.5 μ (*Nuttall*, 1439).

S. Sassafras C. & E.

On *Sassafras Sassafras*, April 10, 1895. Sporules 23 x 10 μ (*Nuttall*, 1801, 688).

S. phomatella Peck.

On *Fraxinus Americana*, March 31, 1894 (*Nuttall*, 1441).

S. Caryæ C. & E.

On hickory barrel-hoop, April 9, 1894. Sporules 18 to 25 x 8 to 11 μ (*Nuttall*, 1448).

S. Ipomœæ E. & E., Proc. Phila. Acad., 1894, 362.

TYPE HABITAT: On dead peduncles of *Ipomœa pandurata*, Dec. 9, 1893 (*Nuttall*, discov. 1305, 249).

Perithecia scattered, ovate-globose, 250 to 300 μ diameter, the upper part prominent and closely covered by the shining black epidermis. Sporules elliptical, brown, 18 to 23 x 10 to 13 μ on pedicels of about the same length as the sporules.

S. Menispermi Peck.

On *Menispermum Canadensis*, Jan. 17, 1894 (*Nuttall*, 1343, 302).

CONIOTHYRIUM Corda.

C. Fuckelii Sacc.

On *Parthenocissus quinquefolia*, sporules globular, 2 to 2.5 μ March 31, 1894 (*Nuttall*, 1442).

C. concentricum (Desm.) Sacc ?

On leaves *Yucca filamentosa*, Sept. 1, 1894 (*Nuttall*, 1187).

HAPLOSPORELLA Speg.

H. Celtidis E. & E., Proc. Phila. Acad., 1894, 362.

TYPE HABITAT: On dead limbs *Celtis occidentalis*, Feb. 2, 1894 (*Nuttall*, discov. 1359, 315).

Perithecia mostly in valsoid clusters of 3 to 10, small, 200 μ white inside, slightly sunk in the inner bark, their papilliform ostiola rupturing the epidermis. Sporules elliptical, brown, continuous, 18 to 22 x 10 to 12 μ on basidia of about the same length as the sporules.

H. Araliæ E. & E., Proc. Phila. Acad., 1894, 362.

TYPE HABITAT: On dead limbs *Aralia spinosa*, Feb. 26, 1894 (*Nuttall*, discov. 1406, 375).

Stromata seriate-connate, erumpent through longitudinal cracks in the bark, and extending from 4 to 5 mm. to 2 or more centimetres. Perithecia ovate-globose, buried in the black, subcarbonaceous stroma, 3 to 6 in each single stroma, about .33 mm. diameter. Sporules elliptical, brown, 20 to 25 x 10 to 12 μ.

This may be the pycnidia of *Botryosphæria fuliginosa* (M. & N.).

DIPLODIA Fries.

D. Liriodendri Peck.

On fire killed *Liriodendron Tulipifera*, Oct. 16, 1894 (*Nuttall*, 1710).

D. Salicina Lév.

On dead twigs *Salix nigra*, March 25, 1894 (*Nuttall*, 1457).

D. Cercidis E. & E., Proc. Phila. Acad., 1894, 363.

TYPE HABITAT: On dead limbs *Cercis Canadensis*, April 9, 1894. (*Nuttall*, discov. 1475, 449).

Perithecia subseriate, globose, .33 to .5 mm. diameter, slightly sunk in the inner bark and splitting the epidermis with short longitudinal clefts. Sporules elliptical, 20 to 23 x 10 to 15 μ on stout basidia, uniseptate.

D. infuscans E. & E., Proc. Phila. Acad., 1894, 363.

TYPE HABITAT: On bark of dead limbs *Fraxinus Americana*, April 27, 1894 (*Nuttall*, discov. 1492, 459).

Perithecia ovate-globose, small, 110 to 150 μ diameter, thickly scattered, blackening both the outer and inner surface of the bark. Ostiolum not conspicuous, obscurely papilliform. Sporules oblong-elliptical, 12 to 15 x 8 to 10 μ scarcely constricted.

In *D. inquinans* West, the sporules and perithecia are larger, and the bark is not blackened within.

D. atrata (Desm.) Sacc.

On dead limbs *Acer Negundo*, April 20, 1894 (*Nuttall*, 1465).

D. caryigena E. & E., Proc. Phila Acad., 1894, 363.

TYPE HABITAT: On dead limbs *Hicoria ovata*, May 31, 1894 (*Nuttall*, discov. 1525). Also Canada (Dearness).

Perithecia subseriate, sunk in the inner bark, covered by the epidermis, which is raised into pustules and ruptured, about .5 mm. diameter, black. Sporules elliptical, brown, uniseptate, scarcely constricted, 15 to 20 x 8 to 10 μ (Pycnidia of *Valsa caryigena* B. & C.)

D. viticola Desm.

On *Vitis*, March 26, 1894. No septum visible in sporules (*Nuttall*, 1443, 412).

D. ilicicola Desm.?

On *Ilex opaca*, Dec. 20, 1894. Sporules 22 to 25 x 11 to 13 μ (*Nuttall*, 1777, 667).

D. Rubi Fr.
On *Rubus* cult., Feb. 19, 1895. Sporules 20 x 8 to 12 μ (*Nuttall*, 1789).

D. inquinans West.
On *Fraxinus Americana*, April 27, 1894 (*Nuttall*, 1491, 459).

D. Juglandis Fr.
On *Juglans cinerea*, April 9, 1894 (*Nuttall*, 1449).

D. Maydis (Berk.) Sacc.
On *Zea Mays*, Aug. 10, 1895. Spores 30 x 4 μ (*Nuttall*, 1840, 729).

BOTRYODIPLODIA Sacc.

B. acerina E. & E., Proc. Phila. Acad., 1894, 363.
TYPE HABITAT: On dead limbs *Acer Pennsylvanicum*, Feb. 2, 1894 (*Nuttall*, discov. 1362, 319).

Perithecia erumpent in botryoidal clusters, often seriately confluent for 1 or more cm., about .5 mm. diameter, white inside, flattish above, with a broad papilliform ostiolum. Sporules elliptical, brown, uniseptate, 20 to 25 x 12 to 15 μ on basidia of about the same length.

B. ———— sp.
Stylosporus stage ? of *Pseudovalsa sigmoidea* (C. & E.). On dead limbs *Quercus Prinus*, with that species. Spores brown, 1-septate 25 x 12.5 μ (*Nuttall*, 1829).

ASCOCHYTA Lib.

A. clematidina Thum.
On *Clematis Virginiana*, Aug. 10, 1895 (*Nuttall*, 1842, 733).

ACTINONEMA Fries.

A Rosæ (Lib.) Fr.
On *Rosa* cult., June 27, 1894 (*Nuttall*, 1563).

HENDERSONIA Berk.

H. Lirella Cooke.
On *Salix nigra falcata*, April 23, 1894 (*Nuttall*, 1480, 460). Sporules 15 x 7.5 μ.

H. Desmazieri Mont.
On bark of limbs *Platanus occidentalis*, April 24, 1894. Sporules + 40 x 22 μ (*Nuttall*, 1466).

STAGONOSPORA Sacc.

S. petiolorum E. & E., Proc. Phila. Acad., 1894, 365.
TYPE HABITAT: On dead petioles *Aralia spinosa*, Feb. 17, 1894 (*Nuttall*, discov. 1389, 357).

Perithecia scattered, innate, small, slightly prominent and covered by the shining, blackened epidermis, 150 to 250 μ diameter, mostly sub-elliptical. Sporules oblong, hyaline, nucleate, becoming one or more septate, 12 to 20 x 2 to 5 μ.

S. pedunculi E. & E., Proc. Phila. Acad., 1893, 457.

TYPE HABITAT: On old fruit peduncles *Magnolia Fraseri* (not LIRIODENDRON TULIPIFERA, loc. cit.). Short Creek, July 25, 1893 (*Nuttall,* discov. 1135, 119).

Perithecia gregarious, pustuliform, about .33 mm. diameter, covered by the blackened epidermis. Sporules cylindrical, 18 to 22 x 2 to 2.5 μ, multinucleate, hyaline, straight.

S. Physocarpi E. & E., Proc. Phila. Acad., 1894, 365.

TYPE HABITAT: On dead stems and limbs *Opulaster opulifolius,* May 12, 1894 (*Nuttall* discov. 1505, 485).

Perithecia scattered, depressed-hemispherical; 200 to 250 μ diameter, sunk in the bark, with the upper part prominent but covered by the epidermis, which is pierced by the papilliform ostiolum, white inside. Sporules linear, multiseptate, hyaline 25 to 35 x 3 to 4 μ.

S. collapsa (C. & E.) Sacc.

On *Acer saccharinum,* Jan. 26, 1894. Sporules 15 to 23 x 3 μ (*Nuttall,* 1353, 309).

S. ———— sp.

On *Chionanthus Virginica* (*Nuttall,* 1462, 440). Spores + 25 x 7 μ 4-septate. This may prove to be only a stylosporous stage of some Dothidaceous species—Ellis.

CAMAROSPORIUM Schulz.

C. Linderæ E. & E., sp. nov.

TYPE HABITAT: On dead limbs *Benzoin Benzoin,* April 15, 1895 (*Nuttall* discov. 1808, 694).

Perithecia scattered, semierumpent .75 mm. diameter, the upper part, except the papilliform, erumpent ostiolum, covered by the closely adherent epidermis, which is raised into distinct, hemispherical pustules. Sporules oblong, 3-septate with 1 to 2 cells divided by a longitudinal septum, brown, obtuse, not constricted 12 to 18 (mostly 12 to 15) x 5 to 7 μ. The perithecia are of a firm consistence and slaty-black inside.

SEPTORIA Fries.

S. Tecomæ E. & E., Proc. Phila. Acad., 1894, 367.

TYPE HABITAT: On leaves *Tecoma radicans,* Aug. 11, 1894 (*Nuttall,* discov. 1671, 580).

Spots light brown (wood color), irregular in shape, small, 1.5 to 2 mm., inconspicuous and indistinctly margined. Perithecia immersed, small (65 to 70 μ) barely visible with a lens. Sporules 40 to 50 x 2 to 2.5 μ, not strongly curved, *nucleate,* hyaline.

S. Brassicæ E. & E., sp. nov.

TYPE HABITAT: On leaves *Brassica nigra,* Nov. 26, 1894 (*Nuttall,* discov. 1759, 646).

Spots suborbicular or subangular, 3 to 4 mm. diameter, dull white with a narrow, darker and sometimes slightly raised border. Perithecia epiphyllous, numerous, sublenticular, pale brown, coarsely cellular, broadly perforated above, 100 to 115 μ diameter. Sporules numerous, curved, obtuse, continuous, hyaline, 25 to 45 x 2 to 3 μ.

Closely allied to *S. Sisymbrii* Ell., but that has the spots greenish at first and never becoming more than whitish and the sporules 1 to 3-septate.

S. RUBI West.

On living leaves *Rubus Canadensis*, Wood Co., Lockhart's Run, 1891 (*Millspaugh*). On same host July 26, 1894 (*Nuttall*, 1627).

S. Corni-maris Sacc.

On *Cornus florida*, alt. 1,700 ft., July 19, 1894 (*Nuttall*, 1612).

S. cornicola Desmz.

On *Cornus alternifolia*, Sewell Valley, Aug. 6, 1894 (*Nuttall*, 1647).

S. KALMIÆCOLA (Schw.) B. & C.

On living leaves *Kalmia latifolia*, 1891, Monongalia Co., at Camp Eden (*Millspaugh*).

S. ochroleuca B. & C.

On leaves *Castanea dentata*, June 30, 1894. Maximum number of perithecia in a single macula 20 (*Nuttall*, 1579).

S. microsperma Peck.

On *Betula lenta*, alt. 1,200 ft., Oct. 24, 1894. Sporules + 18 x .25 μ (*Nuttall*, 1722).

S. Polymniæ E. & E., Proc. Phila. Acad., 1894, 368.

TYPE HABITAT: On leaves *Polymnia Uvedalia*, June 29, 1894 (*Nuttall*, discov. 1595, 543).

Spots, scattered, angular, limited by the veinlets, 2 to 4 mm. diameter, dirty green. Perithecia epiphyllous, minute, 75 μ diameter, scattered, innate, inconspicuous. Sporules filiform, continuous, 35 to 50 x 1 to 1.25 μ.

S. Trautvetteriæ E. & E., Proc. Phila. Acad., 1894, 368.

TYPE HABITAT: On *Trautvetteria Carolinensis*, July 20, 1894 (*Nuttall*, discov. 1632, 564).

Spots irregular, subangular, partly limited by the veinlets of the leaf, often elongated and acute at one end, brownish-black, with an irregularly shaped white center, which is well defined, angular, 3 to 5 mm. in the longer diameter. Perithecia epiphyllous, but also visible below, small (65 to 75 μ), scattered, dark. Sporules abundant, nearly straight or slightly curved, continuous, 22 to 30 x 2 μ.

Differs from *S. Anemonis* Desm. in its broad, dark-margined white-centered spots, and rather longer and thicker sporules.

S. hyalina E. & E., Proc. Phila. Acad., 1894, 368.

TYPE HABITAT: On *Viola primulæfolia*, July 26, 1894 (*Nuttall*, discov. 1641, 572). Also on *V. blanda*, Michigan (Hicks); and on *V. lanceolata, Massachusetts* (Miss Clarke).

Spots minute (.5 to 1 mm.) white, with a dark purple-shaded border. Perithecia punctiform, black, epiphyllous, subglobose, 65 to 75 μ diameter, not abundant. Sporules filiform, nearly straight, or slightly curved, hyaline, nucleate, not visibly septate, 20 to 40 (mostly 25 to 35) x 1 to 1.25 μ.

S. Violæ West, has yellowish-brown perithecia on pale zonate spots with a reddish-brown border.

S. aciculosa E. & E.
On *Fragaria* cult., Nov. 3, 1894. Sporules 15 to 25 x .75 μ (*Nuttall*, 1731).

S. Helianthi E. & K.
On *Helianthus decapetalus*, Oct. 29, 1894. Sporules 50 x 2 μ (*Nuttall*, 1723).

S. Leptostachyæ E. & K.
On leaves *Phryma Leptostachya*, July 4, 1894. Sporules 20 to 25 x 1 μ (*Nuttall*, 1584).

S. Nolitangere Thum.
On *Impatiens biflora*, Aug. 5, 1894. Sporules 20 to 25 x 1.5 to 2 μ (*Nuttall*, 1649).

S. Violæ West.
On *Viola sagittata*, June 30, 1893. Sporules + 25 x 1.25 μ (*Nuttall*, 1577).

S. Saxifragæ Pass.
On *Heuchera Americana*, June 10, 1894. Sporules 15 to 20 x 2.5 to 3 μ (*Nuttall*, 1544, 521).

S. Lobeliæ Peck.
On *Lobelia cardinalis*, June 22, 1894 (*Nuttall*, 1559).

S. Scrophulariæ Peck.
On *Scrophularia Marilandica*, June 10, 1894. Sporules 40 to 50 μ long (*Nuttall*, 1538).

S. VERBENÆ Rob. & Desm.
On leaves *Verbena urticæfolia*, Jefferson Co., near Shenandoah Junction (*Millspaugh*).

S. psilostega E. & M.
On *Galium circæzans*, July 14, 1894 (*Nuttall*, 1604).

S. Nabali B. & C?
On *Prenanthes serpentaria*, June 8, 1894 (*Nuttall*, 1536).

S. atro-purpurea Peck.
On *Aster cordifolius*, Nov. 24, 1894. Sporules + 35 to 55 x 1 to 1.5 μ (*Nuttall*, 1757, 644).

S. polygonorum Desm.
On *Polygonum Hydropiper*, June 8, 1894. Sporules 25 to 40 x 1.5 μ (*Nuttall*, 1537).

S. Smilaciniæ E. & M.
On *Vagnera racemosa* (SMILACINA), Aug. 14, 1894. Maculæ suffused with the marginal color late in season (*Nuttall*, 1252).

RHABDOSPORA Mont.

R. kalmiarum (Schw.)*
Sphæria Kalmianum Schw. On *Kalmia latifolia*, Aug. 26, 1894 (*Nuttall*, 1685, 590).

PHLYCTÆNA Mont. & Desm.

P. vagabunda Desm.
On *Vernonia Noveboracensis*, *Phytolacca decandra* and *Onagra biennis*, March 18, 1894 (*Nuttall*, 1436, 408).

P. septorioides Sacc.
On *Phytolacca decandra*, May 25, 1894 (*Nuttall*, 1498).

P. Ipomœæ E. & E., Proc. Phila. Acad., 1894, 369.
TYPE HABITAT: On calyx lobes *Ipomœa pandurata*, Dec. 9, 1894 (*Nuttall*, discov. 1305, 250).

Perithecia scattered, subcuticular, 75 to 80 μ diameter, covered by the blackened, slightly raised epidermis. Sporules linear, hyaline, curved above, 15 to 20 x 1.25 μ.

P. arcuata Berk.
On *Onagra biennis*, March 18, 1894. Sporules 30 to 35 x .75 μ (*Nuttall*, 1433, 403).

GELATINOSPORUM Peck.

G. betulinum Peck.
On *Betula lenta*, April 12, 1895. Sporules subfiliform nearly semicircular, 32 to 40 x 2.5 μ (*Nuttall*, 1797).

SPHÆROGRAPHIUM Sacc.

S. hystricinum (Ell.) Sacc.
On *Azalea viscosa*, May 4, 1894. Sporules narrowly arcuate-falcate 34 x 3 μ (*Nuttall*, 1501, 481).

S. Fraxini (Peck) Sacc.
On dead limbs *Fraxinus Americana*, Short Creek, alt. 1,300 ft., July 16, 1894. Sporules 50 to 60 x 2.5 μ (*Nuttall*, 1609).

NECTRIOIDACEÆ.

ASCHERSONIA Mont.

A. ——— — — sp.
On *Cornus florida*. Spores 3 to 5 x .75 μ (*Nuttall*, 1800, 687).

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*Transferred to *Rhabdospora* by E. & E.

LEPTOSTROMACEÆ.

LEPTOTHYRIUM Kunze & Schm.

L. ———— sp.
On living leaves *Ilex opaca,* Aug., 1894 (*Nuttall,* 1679, 584). Maculæ white.

L. Liriodendri Cke.
On dead fallen leaves *Liriodendron Tulipifera,* April 17, 1895 (*Nuttall,* 1805).

L. dryinum Sacc.
On living leaves *Quercus rubra,* alt. 1,300 ft., June 29, 1894 (*Nuttall,* 1592, 540).

L. Castaneæ (Spr.) Sacc.
On fallen leaves *Castanea dentata,* April 17, 1895 (*Nuttall,* 1806).

L. petiolorum ———— var.
On dead leaves *Magnolia Fraseri,* April 11, 1895. Sporules 5 x 1 μ (*Nuttall,* 1802, 689).

L? foraminulatum Sacc. & Ell.
On fallen leaves *Ilex opaca,* Aug. 16, 1894. Sporules 25 x 3 μ (*Nuttall,* 1657).

L. vulgare (Fr.) Sacc.
On *Dioscorea villosa,* on *Aralia spinosa,* and on *Onagra biennis.* Sporules 5 to 7 x .75 μ on each host, Feb. 8, 1894 (*Nuttall,* 1368, 323).

SACIDIUM Nees.

S. Vitis E. & E., sp. nov.
TYPE HABITAT: On *Vitis cordifolia,* Nov. 6, 1893 (*Nuttall,* 1254, 198). Fungi Columbiani 290, N. A. F., 3067.

Perithecia scattered; scutellate not perforated, 180 to 220 μ diameter. Sporules oblong-cylindrical, straight or curved, 15 to 20 x 4 to 5 μ, filled with small nuclei.

In the specimens of *Sacidium viticolum,* B. & C. in Rav. F. Am. the sporules are ovate or elliptical, 6 to 7 x 5 μ, and the perithecia are only 75 to 100 μ diameter.

DISCOSIA Lib.

D. Artoceras (Tode) Fr.
On *Castanea dentata,* Oct. 20, 1893. On *Epigæa repens,* Jan. 18, 1894. On *Betula lutea, Fraxinus Pennsylvanica, Magnolia Fraseri, Cornus florida, Sassafras Sassafras,* and *Cephalanthus occidentalis* (*Nuttall,* 1228, 173).

D. MACULICOLA Ger.
On living leaves *Disporum lanuginosum,* Grant Co., near Bayard (*Millspaugh*). On *Smilax rotundifolia* and *Oxydendron arboreum,* July 8, 1894 (*Nuttall,* 1598).

D. rugulosa B. & C.

Parasitic on upper surface of the maculæ of *Phyllosticta caryigena,* July 2, 1894 (*Nuttall,* 1583).

ENTOMOSPORIUM Lév.

E. MACULATUM Lév.

On living leaves and fruits *Pyrus communis* cult., Monongalia Co., Morgantown (*Millspaugh*).

LEPTOSTROMELLA Sacc.

L. filicina (B. & C.) Sacc.

On *Dryopteris spinulosa,* May 4, 1894 (*Nuttall,* 1487).

EXCIPULACEÆ.

DINEMASPORIUM Lév.

D. hispidulum (Schrad.) Sacc.

On *Asimina triloba,* March 9, 1894. Sporules 14 to 18 x 2 to 2.3 μ (*Nuttall,* 1422, 394).

MELANCONIACEÆ.

HAINESIA Ell. & Sacc.

H. Rubi (West).

On leaves of *Rubus* cult. Oct. 28 1895 (*Nuttall,* 1880).

GLŒOSPORIUM Desm. & Mont.

G. ———— sp.

On leaves of *Cercis Canadensis* (*Nuttall,* 985). Sporules 18 x 7.5, + 20 x 7.5, 23 x 7, 25 x 6 μ.

G. Sanguinariæ E. & E., Proc. Phila. Acad., 1894, 371.

TYPE HABITAT: On leaves *Sanguinaria Canadensis,* July 8, 1894 (*Nuttall,* discov. 1601, 555).

Spots yellow, oblong or irregular, 3 to 5 mm. diameter, situated near the apex of the leaf which is more or less uniformly blackened. Acervuli epiphyllous, numerous, innate, yellow and conspicuous. Conidia oblong, hyaline, continuous, mostly a little curved, 8 to 15 x 3.5 to 5.5 μ.

G. aridum E. & H.

On *Fraxinus Pennsylvanica,* June 10, 1894 (*Nuttall,* 1545, 518).

G. Rumicis E. & E., sp. nov.

TYPE HABITAT: On leaves *Rumex obtusifolius,* Oct. 27, 1894 (*Nuttall,* discov. 1729, 617).

Spots reddish-brown, lighter in the center, more or less distinctly zonate 3 to 4 mm. diameter, margin darker. Acervuli innate, small. Sporules erumpent above, oblong, hyaline, continuous, 5 to 8 x 2 to 2.5 μ.

The spots resemble those of *Ovularia obliqua* Cke., on *Ramularia decipiens* E. & E.

G. Alni E. & E., sp. nov.

TYPE HABITAT: On living leaves *Alnus rugosa*, Nov. 24, 1894 (*Nuttall*, discov. 1737, 624).

Spots dirty drown, suborbicular, indistinctly zonate, .5 to 1 cm. diameter, paler in the center, border concolorous, rather indefinite; acervuli epiphyllous, numerous, small, 100 to 120 μ diameter, chestnut color, becoming darker; conidia oblong-elliptical, 12 to 16 x 6 to 8 μ.

Differs from *G. cylindrospermum* Bon., on the same host, in its much broader conidia, and from *G. rubicolum* E. & E. in the different character of the spots and rather broader conidia.

G. nervisequum (Fckl.) Sacc.

On leaves *Platanus occidentalis*, June 10, 1894. Sporules 12.5 to 18 x 4 to 6 μ (*Nuttall*, 1555,526).

G. Robergei Desm.

On *Carpinus Caroliniana*, July 16, 1894 (*Nuttall*, 1608).

G. betularum Ell & Mart.

On *Betula nigra*, sporules 10 x 7 μ, July 16, 1894 (*Nuttall*, 1607).

G. cylindrospermum Bon.

On leaves of *Alnus rugosa*. Spores 8 to 10 x 2 to 2.5 μ (*Nuttall*, 1875).

G. venetum Speg.

On living leaves of *Rubus strigosus*, Sept. 19, 1895 (*Nuttall*, 1859).

G. rubicolum E. E., sp. nov.

TYPE HABITAT: On leaves of *Rubus strigosus* (*Nuttall*, discov. 747).

Spots at first numerous, angular, small and yellowish or reddish-yellow, soon confluent forming large brown, dry, dead spots of irregular shape and indefinite outline, occupying a large part of the leaf. Acervuli not numerous, scattered, epiphyllous, prominent, resembling perithecia; conidia oblong-elliptical, 12 to 16 x 6 to 7 μ.

Differs from *G. Rubi* E. & E. in its larger, fewer black acervuli and broader conidia, which also are about twice as large as in *G. Venetum* Speg.

MYXOSPORIUM Link.

M. luteum E. & E., Proc. Phila. Acad., 1893, 458.

TYPE HABITAT: On bark *Hicoria ovata*, April to July, 1893 (*Nuttall*, discov. 1015, 79). E. & E. N. A. F. 2953. Fungi Columbiani 150.

Stroma globose-conical, light yellow, .75 to 1 mm. diameter, slightly sunk in the inner bark, unilocular and opening by a single pore. The surface of the inner bark around this pore is of a pale slate color, the colored portion definitely limited by a black line so as to form an irregular circle about 2 mm. across, but this line does not penetrate the bark. Sporules navicular-oblong, hyaline, obtuse, 10 to 11 x 4 to 5 μ with 1 to 2 large nuclei. Basidia slender-cylindrical 15 to 20 x 1.5 μ. Mass of exuded sporules flesh color.

M. Rhois (B. & C.) Sacc.
On fire killed *Rhus hirta*, June 20, 1895 (*Nuttall*, 1575, 537).

M. platanicolum E. & E., Proc. Phila. Acad., 1894, 372.
TYPE HABITAT: On limbs *Platanus occidentalis*, April 24, 1894 (*Nuttall*, discov. 1485, 467).

Acervuli subcutaneous, vesiculoid, pale, 1 mm. diameter, raising the ruptured epidermis into pustules but not erumpent. Sporules oval or oblong-ovate, hyaline, nucleate at first, 10 to 12 x 5 to 6 μ, on stout basidia.

M. seriatum E. & E., Proc. Phila. Acad., 1894, 372.
TYPE HABITAT: On bark of *Acer* sp., June, 1894 (*Nuttall*, discov. 1552, 523).

Nuclei pallid, orbicular, about 1 mm. diameter, seated on the surface of the inner bark; surrounded by a thin layer of smoky colored radiating hyphæ, from the inner extremities of which the botuliform or oblong, 6 to 8 x 2 to 2.5 μ hyaline conidia are produced. The nuclei are seriately arranged, and the pale flesh-colored, flattish cirrhi are erumpent through narrow, longitudinal cracks in the bark.

COLLETOTRICHUM Corda.

C. LINDEMUTHIANUM (S. & M.) Scrib.
On pods of *Phaseolus* cult. "Wax, Butter Bean." Monongalia Co., near Morgantown, 1891 (*Millspaugh*).

C. - —— - —— sp.
On *Sassafras Sassafras*, Oct. 15, 1894. Sporules 8 to 18 x 4 to 7 μ (*Nuttall*, 1714, 602).

C. lineola Corda.
On *Zea Mays*, Aug. 10, 1895 (*Nuttall*, 1834, 726).

CYLINDROSPORIUM Ung.

C. Cratægi E. & E., Proc. Phila. Acad., 1894, 372.
TYPE HABITAT: On leaves *Cratægus* sp., July 26, 1894 (*Nuttall* discov. 1640, 571).

Leaves more or less mottled with rusty red, at length uniformly of this same color. Acervuli innate, erumpent on both sides, and whitening the surface of the leaf with abundantly discharged conidia, which are 75 to 100 x 3 to 3.5 μ, nearly straight or more or less undulate and curved, nucleate, and faintly 3 to 5 septate.

C. Toxicodendri (Curtis) E. & E. Proc. Phila. Acad., 1893, 460.
On leaves *Rhus radicans*, June 29, 1894. Sporules, largest, 50 x 3 μ (*Nuttall*, 1568).

LIBERTELLA Desm.

L. FAGINEA Desm.

'On bark of dead *Fagus atropunicea*, Grant Co., near Bayard (*Millspaugh*). On dead *Prunus* sp. cult. Aug. 10, 1895. Cirrus bright red. Sporules variously curved 15 to 25 x 1 μ (*Nuttall*, 1843, 734).

L. ———— sp.

On felled *Robinia Pseudacacia*, April 4, 1894. Sporules 15 to 20 x .75 to 1 μ (*Nuttall*, 1470, 446).

L. acerina Westend.

On *Acer rubrum* or *saccharinum*, April 4, 1894. Sporules hyaline, 15 to 18 x 1 μ (*Nuttall*, 1445).

MELANCONIUM Link.

M. pallidum Peck.

On dead limbs *Hicoria ovata*. Sporules + 20 x 5 μ, May 31, 1894 (*Nuttall*, 1514).

M. oblongum Berk.

On dead limbs *Juglans cinerea*. Sporules 20 x 10 to 2 μ, Dec. 5, 1893 (*Nuttall*, 1291, 236).

M. bicolor Nees.

On *Betula nigra*, May 2, 1894 (*Nuttall*, 1489).

THYRSIDIUM Mont.

T. hedericolum Carpini Sacc.

On dead shoots *Carpinus Caroliniana*, May 2, 1894 (*Nuttall*, 1486).

MARSONIA Fisch.

M. Juglandis (Lib.) Sacc.

On *Juglans cinerea*, June 22, 1894 (*Nuttall*, 1560).

M. Martini Sacc. & Ell.

On *Quercus alba*, *velutina*, *et Prinus*, Aug. 18, 1894 (*Nuttall*, 1674, 583).

CORYNEUM Nees.

C. cupulatum E. & E., Proc. Phila. Acad., 1894, 374.

TYPE HABITAT: On dead limbs *Tsuga Canadensis*, Short Creek, Dec. 16, 1893 (*Nuttall*, discov. 1317, 272).

Erumpent superficial. Acervuli tuberculiform, black, 1 to 1.5 mm. diameter, hollowed out so as to be cup-shaped above. Conidia clavate, sessile, 6 to 9 septate, brown, 60 to 80 x 12 to 15 μ.

C. pustulatum Peck.

On dead limbs *Castanea dentata*, Dec. 7, 1893 (*Nuttall*, 1383).

PESTALOZZIA De Not.

P. ———— sp.

On leaves *Geum Canadense*, Oct. 24, 1894 (*Nuttall*, 1734). Sporules 20 x 6 μ. Setæ 5 to 12 μ long.

P. funerea Desm.
On *Ipomœa pandurata*, Sept. 19, 1895. Spores 23 to 25 x 6 to 7.5 μ (*Nuttall*, 1862, 750).

P. Guepini Desm.
On leaves *Rhododendron maximum*, *R. Catawbiense* and *Azalia viscosa*. Spores 18 to 20 x 8 μ, Aug. 2, 1894 (*Nuttall*, 1149

P. Jefferisii Ell?
On *Opulaster opulifolius*, sporules 10 to 15 x 4 to 5 and 25 x 5 μ May 7, 1894 (*Nuttall*, 1509).

P. Toxica E. & E., Proc. Phila. Acad., 1894, 374.
TYPE HABITAT: On leaves *Rhus radicans*, Aug. 18, 1894 (*Nuttall*, 1670, 567).

Spots and perithecia as in *Phyllosticta rhoicola* E. & E. Sporules clavate-oblong, 4-septate, 12 to 15 x 4 to 5 μ, 3 intermediate cells pale brown, end cells short, conical, hyaline, the upper cell with a crest of 3 short, spreading hyaline bristles 6 to 7 μ long. Distance between the two extreme cells 12 μ, pedicels shorter than the spores.

STEGANOSPORIUM Corda.

S Castaneæ Lib?
On *Castanea dentata*, Nov. 14, 1893 (*Nuttall*, 1275, 221).

S. piriforme (Hoffm.) Corda.
On dying *Acer rubrum*, June 12, 1894 (*Nuttall*, 1553).

S. muricatum Bon.
On dead limbs *Betula nigra* in drift-wood along river, Oct. 21, 1895. Spores 35 to 50 x 15 to 18 μ (*Nuttall*, 1878).

USTILAGINACEÆ.

USTILAGO Pers.

U. SEGETUM (Bull.) Dittm.
On living heads of wheat and oats, Monongalia Co., near Morgantown; Lewis Co., near Alum Bridge; Taylor Co., near Thornton (*Millspaugh*).

U? ———— sp.
On under surface of newly fallen leaves *Asimina triloba*, Nov. 20, 1893 (*Nuttall* discov. 1288, 233).

U. MAYDIS (DC.) Corda.
On living ears and tassels of sweet corn, prevalent in Monongalia Co., 1891; near Morgantown (*Millspaugh*). On garden corn, July 31, 1894 (*Nuttall*, 1636).

U. Avenæ lævis, K. & S.
On oats, Sewell Mountain, alt. 2,600 ft., Aug. 23, 1894 (*Nuttall*, 1678).

TILLETIA Tul.

T. TRITICI (Bjerk.) Wint.

Ustilago tritici, C. Bauhin. On living leaves of wheat, Monongalia Co., near Morgantown (*Millspaugh*).

UROCYSTIS Rabenh.

U. ANEMONES (Pers.) Schrœt.

On living leaves and under stem cuticle of *Actæa alba*, Monongalia Co., near Morgantown (*Millspaugh*).

UREDINACEÆ.

UROMYCES Link.

U. Polygoni (Pers.) Fckl.

Uredospores on *Polygonum erectum*, Aug. 2, 1894 (*Nuttall*, 1642).

U. TRIFOLII (Hedw.) Lev.

On living leaves, *Trifolium pratense*, Mason Co., near Point Pleasant (*Millspaugh*). On *Trifolium*, July 13, 1894 (*Nuttall*, 1604).

U. APPENDICULATUS (Pers.) Link.

On living leaves of pole beans, Monongalia Co., near Morgantown (*Millspaugh*).

U. Caladii (Schwein) Farl.

On *Arisæma triphyllum* (uredospores), May 28, 1894 (*Nuttall*, 1511).

U. Hyperici (Schwein) Curt.

Æcidiospores on *Hypericum mutilum*, at Rupert's, July 25, 1894 (*Nuttall*, 1625).

U. Terebinthi (DC.)

On living leaves *Rhus radicans*, Oct. 17, 1895 (*Nuttall*, 1876).

U. LESPEDEZÆ (Schwein) Peck.

On living leaves *Lespedeza violacea*, Monongalia Co., near Morgantown (*Millspaugh*).

U. HEDYSARI-PANICULATI (Schwein) Farl.

On living leaves *Meibomia canescens*, Mason Co., near Point Pleasant (*Millspaugh*). On leaves *M. paniculata*, July 17, 1894 (*Nuttall*, 1610).

U. Howei Pk.

On *Asclepias Syriaca*, Oct. 13, 1895 (*Nuttall*, 1869).

MELAMPSORA Cast.

M. farinosa (Pers.) Schrœt.

On *Salix nigra*, Oct. 17, 1893. Spores at first hyaline ($22 \times 13\ \mu$) but the granules finally turn yellow ($22\ \mu$), and perfectly fill the spore ($25 \times 18\ \mu$) (*Nuttall*, 1107).

PUCCINIA Pers.

P. Helianthi Sz.
On *Helianthus decapetalus*, Sept. 19, 1895 (*Nuttall*, 1851).

P. Violæ (Schum.) DC.
On *Viola hastata*, æcidial stage; æcidia 18 x 25 μ. A species of small reddish caterpillar found feeding on the spores, April 30, 1893. Uredo stage on *Viola rotundifolia* or *V. blanda*, April 30, 1893 (*Nuttall*, 906).

P. Convolvuli (Pers.) Cast.
On *Convolvulus repens*. Æcidium May 3, Uredo June 14, Teleuto. Oct. 4, 1894; all on same vine (*Nuttall*, 1516).

P. Convolvuli ———— var.
On dead stems of *Convolvulus repens*, Feb. 19, 1895 (*Nuttall*, 1793).

P. PIMPINELLÆ (Strauss) Link.
On living leaves *Osmorrhiza Claytonii*, Monongalia Co. near Morgantown (*Millspaugh*).

P. Menthæ Pers.
On *Cunila origanoides*, Nov. 27, 1894. Teleutospores 28 x 20 μ, not yet verruculose (*Nuttall*, 1753).

P. coronata Corda.
On *Holcus lanatus*, Uredo. June 30, 1893; teleuto. Nov. 1, 1893, on same specimen. Length of pedicel 5 to 7.5 μ very thick, corona + 38 μ broad, teeth 12.5 μ, teleutospores 50 x 15 μ (*Nuttall*, 1265).

P. RUBIGO-VERA (DC.) Wint.
On leaves *Triticum vulgare*, Wood Co., near Kanawha Station (*Millspaugh*).

P. Caricis (Schum.) Reb.
On *Carex* sp. July 10, 1894, uredospores and teleutospores (*Nuttall*, 1590).

P. HIERACII (Schum.) Mart.
P. flosculosorum Roehl. On living leaves *Carduus lanceolatus*, Mason Co., near Point Pleasant (*Millspaugh*). On *Taraxacum Taraxacum*, Oct. 20, 1894 (*Nuttall*, 1721).

P. SUAVEOLENS (Pers.) Rostr.
On living leaves *Carduus lanceolatus*, Wood Co., near Kanawha Station (*Millspaugh*).

P. Sorghi Schwein.
Uredo. and teleutospores on *Zea Mays*, Sept. 7, 1894 (*Nuttall*, 1676).

P. Conoclinii Seymour.
On *Eupatorium cœlestinum*, Sept. 18, 1895 (*Nuttall*, 1849).

P. Anemones-Virginiana Sz.
On *Anemone Virginiana*, Sept. 18, 1895 (*Nuttall*, 1850).

P. Heuchera Sz.
P. Spreta Pk., *P. Tiarella* B. & C. On *Tiarella cordifolia*. Oct. 21, 1895 (*Nuttall*, 1886).

P. Smilacis Schwein.
Uredospores on *Smilax glauca*, Oct. 14, 1894 (*Nuttall*, 1708).

P. Podophylli Schwein.
On *Podophyllum peltatum*, May 31, 1894 (*Nuttall*, 1515).

P. tenuis Burrill.
On *Eupatorium ageratoides*, June 1, 1894 (*Nuttall*, 1519).

P. Asteris Duby.
On *Aster cordifolius*, Nov. 24, 1894 (*Nuttall*, 1758, 645).

GYMNOSPORANGIUM, Hedw.

G. clavariiforme (Jacq.) Rees.
Æcidiospores on *Cratægus* sp., Aug. 2, 1894 (*Nuttall*, 1637).

G. juniperinum (Linn.) Fr.
Teleutospores on *Juniperus Virginiana*, April 27, 1894 (*Nuttall*, 1473).

G. MACROPUS Link.
On *Juniperus Virginiana*, Mercer Co., near Princeton (*Millspaugh*). Æcidia on *Pyrus coronaria*, Aug. 2, 1893 (*Nuttall*, 1157).

PHRAGMIDIUM Link.

P. POTENTILLÆ (Pers.) Karst.
On *Potentilla Canadensis*, uredospores, Monongalia Co., near Morgantown (*Millspaugh*). On *P. Canadensis*, uredo. March 15, 1894, teleutospores, Oct. 5, 1894 (*Nuttall*, 1400?).

P. subcorticium (Schrank.) Wint.
On *Rosa humilis*, June 18, 1893 (*Nuttall*, 1008).

COLEOSPORIUM Lev.

C. SENECIONIS (Pers.) Fr.
On living leaves of *Pinus echinata* (æcidia), Wood Co., near Lockhart's Run (*Millspaugh*).

C. SONCHI (Pers.) Lev.
On living leaves *Vernonia Noveboracense*, Mason Co., near Point Pleasant (*Millspaugh*). On *Aster cordifolius*, Dec. 3, 1894 (*Nuttall*, 1760).

C. Ipomœæ (Schwein) Burrill.
On *Ipomœa pandurata*, Oct. 15, 1894. Spores 85 x 23 μ (*Nuttall*, 1720, 608).

C. Vernoniæ B. & C.
On *Vernonia Noveboracense* at Rupert's, Sept. 25, 1894. Spores 100 x 30 μ (*Nuttall*, 1702, 595).

C. Solidaginis (Schwein.) Thum.
On *Solidago Canadensis*, June 19, 1894 (*Nuttall*, 1550).

ÆCIDIUM Pers.

Æ. Impatientis Schwein.
On *Impatiens biflora*, June 21, 1894 (*Nuttall*, 1558).

Æ. HOUSTONIANUM Schwein.
On *Houstonia cærulea* (spermogonia), Monongalia Co., near Morgantown (*Millspaugh*). On leaves of *H. longifolia*, June 1, 1894 (*Nuttall*, 1518).

PERIDERMIUM Lev.

P. PECKII Thum.
On living leaves *Tsuga Canadensis*, Pocahontas Co., near Traveler's Repose (*Millspaugh*).

P. BALSAMEUM Peck.
Under surface living leaves *Abies Balsamea*, Randolph Co., Shades-of-Death (*Millspaugh*).

UREDO Pers.

U. Agrimoniæ (DC.) Schroet.
On *Agrimonia striata*, July 10, 1894 (*Nuttall*, 1591).

U. CÆOMA NITENS Schwein.
Cæoma nitens. On living leaves *Rubus hispidus*, Monongalia Co., near Morgantown (*Millspaugh*). On *Rubus villosus*, May 2, 1893 (*Nuttall*, 907).

PERISPORIACEÆ.

PODOSPHÆRA Kunze.

P. OXYACANTHÆ (DC.) De By.
On living leaves of *Prunus* cult., *Cratægus oxyacantha* and *Diospyros Virginiana*, Monongalia Co., near Morgantown (*Millspaugh*).

P. TRIDACTYLA (Wallr.) DeBy.
On living leaves of *Prunus* cult., Cabell Co., near Huntington (*Millspaugh*).

SPHÆROTHECA Lev.

S. HUMULI (DC.) Burrill.
On living leaves *Agrimonia striata*, Preston Co., near Terra Alta (*Millspaugh*).

S. Castagnei Lev.
On living leaves *Erechtites hieracifolia*, Nov. 11, 1894. Asci 78 x 58 μ, spores+20 x 12 μ (*Nuttall*, 1740).

PHYLLACTINIA Lev.

P. suffulta (Reb.) Sacc.
On living leaves *Castanea dentata*, Oct. 1893 (*Nuttall*, 1315), and on *Magnolia Fraseri*.

UNCINULA Lev.

U. AMPELOPSIDIS, Peck.
On cultivated grapes, Monongalia Co., near Morgantown (*Millspaugh*). On leaves *Parthenocissus quinquefolia*, Sept. 20, 1894 (*Nuttall*, 1683).

U. Americana How.
On leaves *Vitis cordifolia*, Sept. 20, 1894 (*Nuttall*, 1684).

MICROSPHÆRA Lev.

M. Alni (DC.)
On leaves *Castanea dentata*, alt. 1,800 ft., Oct. 20, 1893 (*Nuttall*, 1218, 169).

M. erineophila Peck.
On leaves *Fagus atropunicea*, Dec. 20, 1894 (*Nuttall*, 1773).

M. Grossulariæ Lev.
On leaves *Sambucus Canadensis*, Oct. 5, 1894 (*Nuttall*, 1693).

M. elevata Burr. and Bess.
On leaves of *Catalpa Catalpa*, alt. 2,200 ft. Oct. 2, 1894 (*Nuttall*, 1690).

M. Russellii Clint.
On *Oxalis stricta*, Aug. 9, 1694 (*Nuttall*, 1650).

M. Vaccinii Schw.
On *Epigæa repens*, Oct. 1893. Threads slender, sharply pointed, somewhat rough, asci 5-spored, 50 to 65 x 30 to 40 μ, spores 18 to 20 x 10 to 11 μ (*Nuttall*, 1255).

M. quercina Schw.
On *Quercus palustris*, at Rupert's, Aug. 26, 1894 (*Nuttall*, 1686, 591).

ERYSIPHE (Hedw.) DC.

E. Cichoracearum DC.
On *Xanthium Canadense*, Nov. 1, 1893 (*Nuttall*, 1223), and on *Eupatorium purpureum*.

E. communis (Wall.) Fr.
On *Eupatorium ageratoides*, Oct. 14, 1894 (*Nuttall*, 1707).

E. GRAMINIS DC.
On living leaves *Poa pratensis*, Preston Co., near Terra Alta (*Millspaugh*).

E. Liriodendri Schw.
On *Liriodendron Tulipifera* in deep shade, Short Creek, alt. 1,150 ft., Oct. 9, 1894 (*Nuttall*, 1697).

EUROTIUM Link.

E. herbariorum (Wigg) Link.
On damp leaves *Liriodendron Tulipifera* neglected in plant press, Sept. 1, 1894 (*Nuttall*, 1681).

ASTERINA Lev.

A. Leemingii E. & E.

On *Galax aphylla*, May 4, 1894 (*Nuttall*, 1493, 475).

DIMEROSPORIUM Fckl.

D. Galactis E. & E.

On leaves of *Galax aphylla* in conjunction with the last species above, May 4, 1894 (*Nuttall*, 1576, 475).

D. Collinsii (Schw.) Thum.

On leaves *Amalanchier Canadensis*, Glade Creek, May 4, 1894 (*Nuttall*, 1490, 472).

SCORIAS Fries.

S. spongiosa (Schw.) Fr.

On living *Fagus atropunicea*, at Rupert's July 26, 1894. Spores 16 to 18 x 5 μ (*Nuttall*, 1634).

SPHÆRIACEÆ.

VALSA Fries.

V. ceratophora Tul.

On fire killed *Hicoria minima*, Oct. 17, 1894. On *Acer saccharinum*, L. Asci 38 x 5 μ, spores 7.5 to 10 x 1.5 to 1.75 μ (*Nuttall*, 1711).

V. Diospyri E. & E. Proc. Phil., Acad., 340 (1894).

TYPE HABITAT: On dead limbs *Diospyros Virginiana*, Dec. 10, 1893 (*Nuttall*, discov. 1308, 253).

Stroma consisting of the slightly blackened substance of the bark, convex, about 2 mm. diameter, not circumscribed. Perithecia 4 to 10 in a stroma, subglobose, .25 to .33 mm. diameter, necks converging and united above in a small, black disk which perforates the pustuliform-elevated epidermis, but does not rise above it. Ostiola short, conic-cylindrical, with a smooth, round opening crowded and finally obliterating the disk. Asci clavate-lanceolate, p. sp. 25 x 5 μ, 8-spored, paraphysate. Sporidia allantoid, hyaline, 8 to 10 x 1.5 to 2 μ. Spermogonia (Cytispora), stroma multilocular gray inside, opening by a single, central pore. Spermatia allantoid, hyalins, moderately curved, 4 to 5 x 1.25 μ.

V. etherialis E. & E. Proc. Phila. Acad., 341 (1894).

TYPE HABITAT: On dead limbs of *Acer rubrum*, Feb. 1894 (*Nuttall*, discov. 1304, 373).

Stromata cortical, thickly scattered, convex 1 to 1.5 mm. diameter. Perithecia 6 to 12 together, circinate, buried in the unaltered substance of the bark, small, 150 to 250 μ diameter their short necks terminating in an erumpent, compact fascicle of obtuse, black, slightly umbilicate ostiola closely embraced by the epidermis and scarcely rising above it. Asci (p. sp.) fusoid, 15 to 22 x 4 to 4.5 μ, stipitate, 8-spored. Sporidia biseriate, allantoid, hyaline, curved, slender, 5 to 6 x about 1 μ. When well developed, the epidermis is raised into subdiscoid pustules in which the slight protuberances indicate the position of the subjacent perithecia.

V. delicatula C. & E. has fewer, larger perithecia and broader sporidia. *V. miscrospora* Cke. & Plowr. has also larger perithecia and yellowish sporidia, and the ostiola are more or less distinctly sulcate, indicating its close relationship to *Eutypella*. In *V. etherialis* the sporidia both in and out of the asci are perfectly hyaline.

V. coronata (Hoffm.) Fr.

On young, fire-killed *Castanea dentata*, Nov. 14, 1893 (*Nuttall*, 1263, 209).

V. albopuncta E. & E., sp. nov.

TYPE HABITAT: On dead limbs *Liriodendron Tulipifera*, Oct., 1894 (*Nuttall*, discov. 1712, 600).

Stromata minute (.5 to 7.5 mm.), subseriate, included in the thick epidermis and not penetrating the inner bark, white throughout, and without any distinct circumscribing line. Perithecia 3 to 6 in a stroma, pale slate-color, 110 to 130 μ diameter; necks very slender, terminating in minute, subglobose, slate-colored ostiola tardily erumpent around the margin of the minute, snow-white, pulverulent disk. Asci clavate-cylindrical, 50 x 6 μ, short-stipitate, obtuse above, paraphysate? Sporidia biseriate, allantoid, hyaline, moderately curved, 6 to 9 x 1.5 to 2 μ.

A beautiful species. The lines of snow-white disks, which barely perforate the ruptured epidermis and are closely surrounded by its torn and slightly raised margin, present a very neat appearance.

V. Abietis Fr.

On *Tsuga Canadensis* Short Creek, alt. 1,100 ft., Feb. 2, 1893 (*Nuttall*, 1349).

V. Vitis (Schw.) Fckl.

On *Vitis* sp., March 26, 1894 (*Nuttall*, 1432).

V. præstans B. & C.

On dead twigs *Nyssa aquatica*, Nov. 14, 1893 (*Nuttall*, 1247). Spores 10 to 12 x 3 to 4 μ.

V. Nyssæ Cooke.

On fire killed *Nyssa aquatica*, Nov. 14, 1893 (*Nuttall*, 1689).

V. subclypeata C. & Peck.

On young fire killed *Sassafras Sassafras*, Nov. 14, 1893 (*Nuttall*, 1262, 209).

V. ambiens (Pers.) Fr.

On *Asimina triloba*, *Cornus florida* and *Aralia spinosa*, Feb. 18, 1894 (*Nuttall*, 1383).

V. Chionanthi E. & E., Proc., Phila. Acad., 340 (1894).

TYPE HABITAT: On dead limbs of *Chionanthus Virginica*, March, 1894 (*Nuttall*, discov. 1456, 228).

Perithecia 4 to 10, globose, .25 to .33 mm. diameter, buried in the unchanged substance of the bark, with convergent necks, terminating in short-cylindrical, obtuse, perforated ostiola erumpent in a close fascicle perforating and slightly raising the bark. Asci clavate, p. sp. 40 to 45 x 8 to 10 μ, 8-spored, paraphysate? Sporidia allantoid, hyaline, 12 to 15 x 3.5 to 4.5 μ, biseriate above.

Spermogonia (*Cytispora Chionanthi* E. & E.) buried in the bark flask-shaped, .5 to .75 μ diameter, multilocular, the cells soon confluent, the apex erumpent and perforated by a single pore. Sporules allantoid, 4 to 6 x 1 to 1.25 μ, borne on basidia branched above, the branches erect, straight, nucleate, 7 to 10 μ long.

V. pauperata C. & E.
On *Acer rubrum*, March 26, 1894 (*Nuttall*, 1444, 423).

V. leucostoma (Pers.) Fr.
On peach tree, Dec. 2, 1894 (*Nuttall*, 1768).

V. Linderæ Peck.
On *Benzoin Benzoin*, April 11, 1895 (*Nuttall*, 1796).

EUTYPELLA Nits.

E. densissima E. & E., Proc. Phila. Acad., 341 (1894).
TYPE HABITAT: On dead limbs *Aralia spinosa*, Feb., 1894 (*Nuttall*, 363).

Stromata scattered, cortical, depressed-conical, 2 to 3 mm. diameter, not circumscribed, but staining the bark olive-gray. Perithecia numerous, often 50 to 70 in a stroma, 100 to 120 μ diameter, closely packed, their slender necks terminating in obtusely conical, 4 cleft, black, densely crowded ostiola erumpent in a brown disk surrounded by the ruptured epidermis. The disk is soon obliterated, so that only the crowded, black, subshining ostiola are seen. Asci clavate-fusoid, p. sp. 25 to 30 x 4 μ. Sporidia biseriate, allantoid, hyaline, moderately curved, 8 to 10 x 1.5 to 2 μ.

E. rugiella (C. & E.) Sacc.
On *Acer rubrum*, May 4, 1893 (*Nuttall*, 921).

E. stellulata (Fr.) Sacc.
On *Robinia Pseudacacia*, March 29, 1893 (*Nuttall*, 33).

E. Platani Sz.
On *Platanus occidentalis* in drift. Spores 7.5 to 8 x 1.5 to 2 μ. Oct. 21, 1895 (*Nuttall*, 1885).

EUTYPA Tul.

E. spinosa (Pers.) Tul.
On dry dead logs, June 29, 1893 (*Nuttall*, 1105).

E. milliaria (Fr.) Sacc.
On river drift wood, April 20, 1894. Asci 150 x 6 μ spores 10 x 2 μ (*Nuttall*, 1477).

DIATRYPE Fr.

D. Stigma (Hoffm.) Fr.
On *Castanea dentata*, April 15, 1895 (*Nuttall*, 1799).

D. platystoma (Schw.) Berk.
On *Magnolia Fraseri*, Feb. 8, 1894 (*Nuttall*, 1380, 342).

DIATRYPELLA C. & DeNot.

D. verruciformis (Ehrh.) Nits.
On *Alnus rugosa*, Nov. 20, 1893 (*Nuttall*, 1258).

ROSELLINIA DeNót.

R. aquila (Fr.) De Not.
On dead limbs, March 21, 1893 (*Nuttall*, 919, 19).

R. corticium (Schw.) Sacc.
On dead oak, alt. 1,800 ft., Short Creek. Spores 25 to 30 x 10 to 12.5 μ. Dec. 16, 1893 (*Nuttall*, 1310).

R. subiculata (Schw.) Sacc.
On dead dry *Robinia Pseudacacia*, July 15, 1893. Perithecia clustered or connate, each 3 to 5 μ, black, ostiola papillate. Spores 9 to 12.5 x 5 to 6 μ somewhat inequilateral, elliptical, colored. (*Nuttall*, 1129).

R. pulveracea (Ehrh.) Fckl.
On dead wood, Nov. 1893. Spores 10 to 15 x 7 to 9 μ (*Nuttall*, 1338).

R. millegrana (Schw.) Sacc.
On dead *Platanus occidentalis*, Aug. 2, 1893 (*Nuttall*, 1161).

R. abietina trichota C. & Ell.
On *Pinus Virginiana*, Jan. 7, 1895 (*Nuttall*, 1784, 675).

BOMBARDIA Fr.

B. fasciculata Fr.
On wet dead limb, *Magnolia Fraseri*, on ground, Sep. 16, 1895 *Nuttall*, 1830).

ANTHOSTOMA Nits.

A. microecium E. & E., Proc. Phila. Acad., 344 (1894).
TYPE HABITAT: On dead limbs *Asimina triloba*, Feb. 12, 1894 (*Nuttall*, discov. 1377).

Stroma cortical, faintly circumscribed, 1 to 1.5 mm. diameter, orbicular, convex. Perithecia 4 to 8 in a stroma, globose, minute (200 to 250 μ), circinate, necks slender, short, converging, with the minute papilliform ostiola erumpent in a small, black, hemispherical disk, which barely pierces the pustuliform-elevated epidermis, and is closely embraced by it. Asci cylindrical, 80 to 110 x 8 to 10 μ, paraphysate 8-spored. Sporidia uniseriate, elliptical, brown, continuous, 2-nucleate, 12 to 14 x 6 to 7 μ.

Distinguished by its very small stroma and perithecia.

A. microplacum (B. & C.) Sacc.
On *Sassafras Sassafras*, alt. 1,800 ft., March 21, 1893 (*Nuttall*, 915).

XYLARIA Hill.

X. polymorpha (Pers.) Grev.
On dead logs, April 7, 1893 (*Nuttall*, 890).

X. corniformis Fr.
On rotten limb, Sept. 9, 1893. On *Magnolia Fraseri*, Nov. 1895 (*Nuttall*, 1194).

X. Hypoxylon (Linn.) Grev.
On dead log, March 10, 1893 (*Nuttall*, 807).

X. flabelliformis (Schw.) B. & C.
On *Carpinus Caroliniana*, May 13, 1893 (*Nuttall*, 957).

X. Cornu-Damæ (Schw.) Berk.
On wet rotten log, alt. 2,000 ft., Aug. 24, 1893. Spores 20 to 21 x 4.5 μ (*Nuttall*, 1179).

USTULINA Tul.

U. vulgaris Tul.
On dead and rotting stumps, March 8, 1893 (*Nuttall*, 954).

HYPOXYLON Bull.

H. atroviride E. & E., Proc. Phila. Acad., 346 (1894).
TYPE HABITAT: On bark of dead tree, *Betula* or *Quercus*, Dec., 1893 (*Nuttall*, discov. 1320, 275).

Stroma pulvinate, 1 to 1.5 cm. across, and about 4 mm. thick, orbicular, covered above with a thin (.5 mm.) carbonaceous crust, which is soon covered by a dark green layer of the ejected spores, laterally and internally dirty-umber color. Perithecia (which constitute the entire inner substance of the stroma) ovate compressed, and including the long, stout neck, about 3 mm. long and 1 mm. broad below. Ostiola papilliform, soon covered and obscured by the ejected sporidia. Asci cylindrical 100 x 3.5 to 4 μ (p. sp. 40 to 45 long), paraphysate, 8-spored. Sporidia uniseriate, oblong-elliptical, pale brown under the microscope, 2-nucleate, 4.5 to 5.5 x 2 μ.

This is a well-marked species. The substance of the stroma, except the superficial carbonaceous layer, is friable, and in this respect as well as the color resembles *H. Petersii* B. & C., from which, however, in other respects it is very distinct.

H. coccineum Bull.
On *Aralia spinosa*, alt. 1,300 ft., Aug. 18, 1893 (*Nuttall*, 1173, 140).

H. Nuttallii E. & E., Proc. Phila. Acad., 346 (1894).
TYPE HABITAT: On bark of dead *Magnolia Fraseri* at Glade Creek, May 1894 (*Nuttall*, discov. 1494, 477).

Stromata gregarious, subconfluent, depressed-hemispherical or strongly convex, 3 to 6 mm. diameter, purplish-black, mammillose. Perithecia small (about .25 mm.) scattered irregularly through the stroma, which is rather soft and brownish within. Ostiola crowning the mammillose projections on the surface of the stroma, papilliform, soon deciduous, leaving a round perforation. The asci in the spec. examined had disappeared. Sporidia brown, oblong-elliptical, sub-inequilateral, 7 to 8 x 3 to 4 μ (exceptionally 9 x 5 μ).

H. Howeianum Peck.
On decorticated *Magnolia Fraseri*, alt. 1,800 ft., Sept. 12, 1893 (*Nuttall*, 1203, 158).

H. FUSCUM (Pers.) Fr.
On dead and decorticated *Acer saccharum*, Grant Co., near Bayard (*Millspaugh*). On dead *Alnus rugosa*, Oct. 31, 1893. Spores 12 x 6 to 7 μ (*Nuttall*, 1221).

H. multiforme Fr.
On dead *Betula* sp., alt. 1,800 ft., Short Creek, Aug. 11, 1893 (*Nuttall*, 1147).

H. perforatum (Schw.) Fr.
On dead twig, Feb. 3, 1894. On *Ilex opaca*, Dec. 28, 1894 (*Nuttall*, 1351). Spores 10 x 5 μ. On *Magnolia Fraseri*, Nov. 1895.

H. rubiginosum (Pers.) Fr.
On dead hard wood of *Robinia Pseudacacia*, Feb. 25, 1893 (*Nuttall*, 949, 39).

H. Sassafras (Schw.) Berk.
On *Sassafras Sassafras*, March 21, 1893. Spores 8 to 12 x 3 to 4 μ (*Nuttall*, 917).

H. stigmateum Cooke
On living *Quercus* sp., originating under the outer bark which it pushes off, or at times remains attached at one edge and stands away like a lid. Asci, total length, 150 x 10 μ, fertile portion 120 x 10 μ, spores black, elliptical, 16 to 20 x 6 to 10 μ. Feb. 2, 1894 (*Nuttall*, 1350).

H. colliculosum (Schw.) Nits.
On *Rhododendron maximum*, alt. 1,800 ft., Short Creek, Dec. 16, 1893 (*Nuttall*, 1330, 289).

DALDINIA DeNot.

D. concentrica (Bolt.) C. & DeN.
On bark of dying *Acer* sp., April 15, 1893 (*Nuttall*, 905).

D. vernicosa (Schw.) C. & DeN.
On dead trees, March, 1895 (*Nuttall*, 1790).

NUMMULARIA Tul.

N. punctulata (B. & Rav.) Sacc.
On dead branch of *Quercus* sp., Aug. 16, 1893 (*Nuttall*, 1151).

GNOMONIELLA Sacc.

G. Coryli (Batsch.) Sacc.
On *Corylus Americana* at Rupert's, Aug. 5, 1894 (*Nuttall*, 1647).

PHYSALOSPORA Niessl.

P. Ilicis (Schl.) Sacc.
On dead leaves of *Ilex opaca*, July 21, 1894. Asci 7.5 to 10 μ (*Nuttall*, 1616).

TRICHOSPHÆRIA Fckl.

T. pulchriseta Peck.
On dry firm splinters of dead log, alt. 1,800 ft., Short Creek, March 6, 1894 (*Nuttall*, 1412, 382).

BOTRYOSPHÆRIA Ces. & DeNot.

B. Quercuum (Schw.) Sacc.
On *Quercus* sp., *Vitis* sp., *Pinus Virginiana*, *Opulaster opulifolius*, and *Parthenocissus quinquefolia*. Perithecia 2 to 10 (*Nuttall*, 925, 14).

B. Quercuum —————— var.
On cultivated *Rubus*, Feb. 25, 1895 (*Nuttall*, 1794, 685).

B. Araliæ Curtis.
On *Aralia spinosa*, Feb. 24, 1894. Spores 20 to 30 x 8 to 10 μ (*Nuttall*, 1395).

B. pyriospora (Ellis) Sacc.
On *Chionanthus Virginica*, March 28, 1894. Asci, fertile portion, 75 x 15 μ (*Nuttall*, 1438).

B. Hibisci ——— ——forma.
On *Celastrus scandens*, April 27, 1895 (*Nuttall*, 1819, 707). Spores 26 to 35 x 6 to 7.5 μ.

CRYPTOSPORELLA Sacc.

C. compta (Tul.) Sacc.
On dead limbs of *Fagus atropunicea*, Nov. 17, 1893. Asci, fertile portion, 100 x 12.5 to 15 μ, spores granular 22 x 10 μ (*Nuttall*, 1256).

SPHÆRELLA Ces. & DeNot.

S. maculiformis (Pers.) Awd.
On leaves of *Castanea dentata* on ground, Dec. 13, 1893 (*Nuttall*, 1314).

S. conicola Sacc.
On dead cones of *Tsuga Canadensis*, Dec. 16, 1893. Spores 10 x 3 μ (*Nuttall*, 1311).

S. Gaultheriæ C. & P.
On *Gaultheria procumbens*, June 8, 1894 (*Nuttall*, 1534).

S. nyssæcola Cooke?
On *Nysa aquatica*, Oct. 10, 1894 (immature) (*Nuttall*, 1719, 607).

DIDYMELLA Sacc.

D. Physocarpi E & E., Proc. Phila. Acad., 1894, 335.
TYPE HABITAT: On *Opulaster opulifolius*, May 12, 1894 (*Nuttall*, 1507, 488).

Perithecia gregarious, covered by the pustuliform epidermis, about .25 mm. diameter, white inside, depressed-globose, the papilliform ostiolum barely penetrating the epidermis. Asci clavate-cylindrical, short-stipitate, 85 to 90 x 10 to 12 μ, paraphysate, 8-spored. Sporidia biseriate, fusoid, 4-nucleate, uniseptate, constricted at the septum, hyaline, 19 to 22 x 4 to 5 μ, mostly a little curved.

MELANCONIS Tul.

M. modonia Tul.
On *Castanea dentata*, Nov. 14, 1893 (*Nuttall*, 1274, 221).

HERCOSPORA Tul.

H. Tiliæ (Fr.) Tul.
On *Tilia heterophylla*, Feb. 16, 1894. Spores 18 x 7.5 μ (*Nuttall*, 1834, 346).

DIAPORTHE Nits.

D. Gladioli E. & E. ?
On *Caulophyllum thalictroides*, July 8, 1894. Asci 38 x 5 to 7 μ, spores septate, 4-nucleate, about 10 x 3 μ (*Nuttall*, 1603, 553).

D. Araliæ E. & E., Proc. Phila. Acad., 339 (1894).
TYPE HABITAT: On *Aralia spinosa*, Feb. 2, 1894 (*Nuttall*, discov. 1356, 312).

Stroma buried in the wood and circumscribed by a penetrating, black line, elliptical, about 5 x 4 mm. Perithecia buried in the stroma, few (6 to 10) globose, .5 to .75 mm. diameter, their short-cylindrical ostiola projecting from a black, tubercular disk seated on the surface of the wood and perforating the pustuliform-elevated epidermis, but scarcely rising above it. Asci clavate-cylindical, 40 to 45 x 5 to 6 μ, paraphysate, 8-spored. Sporidia biseriate, oblong, 4-nucleate, becoming uniseptate and slightly constricted, hyaline, obtuse, 12 to 13 x 2.5 to 3 μ.

Allied to and resembling *D. ocularia* C. & E.

D. CHOROSTATE **Halesiæ** E. & E., Proc. Phila. Acad., 339 (1894).
TYPE HABITAT: On dead limbs of *Mohrodendron Carolinum*, May, 1894 (*Nuttall*, discov. 1541).

Perithecia 4 to 8, loosely circinate. .75 mm. horn-color inside, becoming nearly black, sunk in the wood, necks converging with their obtuse, smooth, hemispherical ostiola erumpent in a close fascicle, closely surrounded by the ruptured epidermis. Asci slender, 55 to 60 x 6 to 7 μ, short-stipitate. Sporidia subbiseriate, fusoid-oblong, hyaline, 2 to 4-nucleate, becoming uniseptate and slightly constricted, straight, 12 to 15 x 2.5 to 3 μ.

There is no distinct circumscribing line around the stroma, but the inner surface of the bark is uniformly blackened.

D. CHOROSTATE **Tetrapteræ** E. & E., Proc. Phila. Acad., 339 (1894).

TYPE HABITAT: On dead limbs *Mohrodendron Carolinum*, May, 1894 (*Nuttall*, discov. 1542).

Stroma cortical, 1.5 to 2 mm. diameter, surrounded by a black line which does not penetrate the wood. Perithecia 4 to 12, circinate, 5 mm. diameter, sunk to the wood and leaving their impress on its surface but not penetrating it. Ostiola obtusely rounded and perforated, erumpent in a compact fascicle and closely surrounded by the ruptured epidermis. Asci clavate-cylindrical, 75 to 80 x 12 μ. Sporidia biseriate, oblong-fusoid, slightly curved, subobtuse, hyaline, uniseptate and constricted at the septum, each cell with a large nucleus, 9 to 22 x 5 to 7 μ.

Differs from *D. Halesiæ* E. & E., in its smaller perithecia, not sunk in the wood, and its much larger sporidia.

D. CHOROSTATE **Aceris** Fckl.

On *Acer saccharinum*, L., Jan. 26, 1894 (*Nuttall*, 1739).

D. **Hydrangeæ** E. & E., sp. nov.

TYPE HABITAT: On dead stems *Hydrangea arborescens*, Nov. 1894 (*Nuttall*, discov. 1756, 641).

Perithecia scattered, ovate-globose, 350 to 380 μ diameter, sunk in the wood, which is not at all discolored. Ostiola stout, erumpent, short-cylindrical, or conic-cylindrical, the apex papilliform. Asci (p. sp.) oblong-cylindrical, 50 to 60 x 8 μ, 8-spored, obscurely paraphysate. Sporidia biseriate, oblong elliptical, hyaline, uniseptate, slightly constricted, 12 to 15 x 3 to 4 μ, ends subacute.

This may be the *Sphæria* spoken of by Schweinitz as found by him on limbs of *Hydrangea*, in company with his *Sphæria* (*Teichospora*) *Hydrangeæ*.

D. CHOROSTATE **cercophora** (Ellis.) Sacc.

On *Ilex opaca* Dec. 23, 1893, March 15, 1894 (*Nuttall*, 1333).

D. CHOROSTATE **oncostoma** (Du B.) Fckl.

On *Robinia Pseudacacia*, April 7, 1894. Spores 17 to 19 x 4 to 5 μ (*Nuttall*, 1446).

D. CHOROSTATE **sociata** (C. & E.) Sacc.

On *Benzoin Benzoin*, April 13, 1895. Helminthospores 75 to 100 x 15 μ. 7-septate (*Nuttall*, 1798).

D. CHOROSTATE **obscura** (Peck) Sacc.

On *Rubus villosus*, Feb. 13, 1893 (*Nuttall*, 1313, 260).

D. EUPORTHE **aculeata** (Schw.) Sacc.

On *Phytolacca decandra*, Nov. 14, 1894. Asci 40 to 55 x 6 to 7.5 μ. Spores 12.5 to 18 x 3 to 3.5 μ (*Nuttall*, 1754, 639).

D. TETRASTAGA **rostellata** (Fr.) Nits.

On *Rubus odoratus*, May 31, 1894 (*Nuttall*, 1528, 560).

AMPHISPHÆRIA Ces. & DeNot.

A. pinicola Rehm.

On *Pinus rigida* at Glade Creek, and on *Pinus Virginiana*, May 4, 1894. Spores very variable + 35 x 12 μ (*Nuttall*, 1499, 480).

VALSARIA Ces. & DeNot.

V. exasperans (Ger.) Sacc.

On *Juglans cinerea*, Nov. 3, 1893 (*Nuttall*, 1260, 202).

MASSARIA DeNot.

M. Magnoliæ E. & E., sp. nov.

TYPE HABITAT: On bark of dead limbs *Magnolia acuminata*, April 25, 1895 (*Nuttall*, discov. 1818, 700, 705).

Perithecia scattered, buried in the bark, depressed-globose, .75 to 1.25 mm. diameter, the subconical ostiolum piercing but not perceptibly raising the bark. Asci broad oblong, p. sp. 150 to 200 x 55 to 65 μ with a very short, nodular stipe, 8-spored, paraphysate. Sporidia crowded-biseriate, oblong or clavate-oblong, 3 to 5-septate, mostly 3-septate, when young, hyaline at first, finally deep brown and then with only one distinct septum, though often 1 to 4 other faint septa can be seen. There is a distinct constriction at the main septum, which is a little below the middle of the spore, but none at the other faint septa which are often wanting. The sporidia measure 65 to 80 x 20 to 25 μ, larger than in *M. fœdans* (Tode), which has sporidia about 50 x 20 μ, 3-septate and constricted at all the septa, besides being more distinctly narrowed below.

LEPTOSPHÆRIA (Pers.) DeNot.

L. Doliolum (Pers.) DeNot.

On *Polymnia Uvedalia* and *Helianthus decapetalus*, Nov. 16, 1894. Perithecia covered by outer bark. Asci, fertile part 110 x 6 μ, stipitate, spores overlapping at ends. Spores 22 x 4 μ, 23 x 4.5 μ, 25 x 5 μ, 27 x 5 μ, 30 x 5 μ; 3-septate, nucleate, constricted at septum when mature; straight, one-sided, or curved (*Nuttall*, 1744).

L. vagabunda Sacc.

On dead stems *Hydrangea arborescens*, Nov. 21, 1894. Asci 125 to 150 x 7.5 μ total length (*Nuttall*, 1745).

L. ogilviensis (B. & Br.) Ces. & DeNot.

On *Cimicifuga racemosa*, July 4, 1894 (*Nuttall*, 1586).

L. clavigera (C. & E.) Sacc.
On old stems *Phytolacca decandra*, Nov. 14, 1894 (*Nuttall*, 1741). Spores + 43 x 6 μ.

L. orthogramma (B. & C.)
On *Zea Mays*, Aug. 10, 1895 (*Nuttall*, 1832, 722).

MELANOMMA Nits & Fckl.

M. Pulvis-pyrius (Pers.) Fckl.
On decorticated *Magnolia Fraseri*, alt. 1,800 ft., Short Creek, Sept. 10, 1893. Spores 15 x 3.5 μ (*Nuttall*, 1200).

TREMATOSPHÆRIA Fckl.

T. vitigena E. & E., sp. nov.
TYPE HABITAT: On old, decaying wood of *Vitis rupestris*, April, 1894 (*Nuttall*, discov. 454).

Perithecia gregarious, sunk in the wood all except the obtuse, convex apex, .5 to .75 mm. diameter, depressed-globose, the buried part rather thin-walled, the erumpent, convex apex thick, solid, like the stromatic shield of *Clypeosphæria*. Ostiolum papilliform, soon perforated. Asci clavate-cylindrical, paraphysate, 8 spored, 86 to 100 x 10 to 12 μ. Sporidia sub-biseriate, fusoid-oblong, 3-septate, and constricted, subacute, pale-brown, 20 to 25 x 6 to 7 μ.

PSEUDOVALSA Ces. & DeNot.

P. sigmoidea (C. & E.)
On dead limbs *Quercus Prinus*. Spores 50 to 88 x 5 to 7 μ (*Nuttall*, 1828, 717).

LASIOSPHÆRIA Ces. & DeNot.

L. ovina (Pers.) Ces. & DeNot.
On *Juglans cinerea*, and parasitic on *Hypoxylon*, Short Creek, alt. 1,800 ft., Dec. 16, 1893. Spores 50 to 60 x 6 to 7.5 μ. Asci 135 x 12.5 μ (*Nuttall*, 1322).

ACANTHOSTIGMA DeNot.

A. decastylum (Cooke) Sacc.
On dead log, June 18, 1893 (*Nuttall*, 1018).

HERPOTRICHIA Fckl.

H. diffusa (Schw.)
On dead twig, Sept. 10, 1893 (*Nuttall*, 1197).

CALOSPORA Sacc.

C. aculeans (Schw.) Sacc.
On *Rhus hirta* and *copallina*, March 29, 1894. Spores 15 to 17 x 3 μ, aculeate (*Nuttall*, 1440).

C. Rhoina (C. & Ell.) Sacc.

On *Rhus hirta*, Dec. 9, 1893. Spores 15 to 18 x 5? μ hyaline, 4-nucleate, uniseptate constricted at septum. (*Nuttall*, 1348, 306).

PYRENOPHORA Fr.

P. calvescens (Fr.) Sacc.?

On *Chenopodium anthelminticum*, Aug. 10, 1895 (*Nuttall* 1845, 736).

TEICHOSPORA Fckl.

T. nitida E. & E.

On *Rubus villosus*, Apr. 25, 1895. Asci 75 x 12? μ. Spores 20 to 23 x 9 to 10 μ (*Nuttall*, 1817, 706).

PLEOSPHÆRIA Speg.

P. corticola E. & E., Proc. Phila. Acad., 1894, 332.

TYPE HABITAT: On bark of *Pinus rigida*, Glade Creek, June 24, 1894 (*Nuttall*, discov. 1582).

Perithecia scattered, superficial, ovate, 300 to 400 μ diameter, carbonaceo-membranaceous, pilose-strigose, hairs 100 to 200 x 5 to 6 μ, soon opaque, very faintly and sparingly septate, here and there collected into closely compacted fascicles resembling stout bristles. Ostiolum papilliform, obtuse. Asci oblong-cylindrical, abruptly short-stipitate, 80 to 100 x 20 to 25 μ. Paraphysate? Sporidia crowded, acutely elliptical, nearly hyaline at first, becoming olive-brown and 5 to 7 septate and muriform, but not constricted.

Comes near *P. strigosa* Sacc., but perithecia rather smaller, not depressed, and hairs fasciculate.

P. ———— sp.

On *Tecoma radicans*, Feb. 20, 1894 (*Nuttall*, 1414, 385).

CUCURBITARIA Gray.

C. Fraxini E. & E.

On *Fraxinus Americana*, Apr. 27, 1894 (*Nuttall*, 1523).

C. elongata (Fr.) Grev.

On *Robinia Pseudacacia*, Jan. 15, 1894 (*Nuttall*, 1783).

OPHIOBOLUS Riess.

O. porphyrogonus (Tode) Sacc.

On *Vernonia Noveboracensis*, Apr. 24, 1895 (*Nuttall*, 1820, 702).

O. acuminatus (Sow.)

On *Zea Mays*, Aug. 10, 1895 (*Nuttall*, 1839, 728).

O. fulgidus (C. & P.) Sacc.

On *Vernonia Noveboracensis*, Apr. 24, 1895 (*Nuttall*, 1821, 703).

CRYPTOSPORA Tul.

C. femoralis (Peck) Sacc.

On *Alnus rugosa*, Feb. 25, 1894. Asci 60 to 75 x 12.5 to 15 μ. Spores 50 to 65 x 3.5 μ in middle and enlarging to 5 μ at each end (*Nuttall*, 1318).

C. cinctula (C & P) Sacc?

On *Castanea dentata*, Dec. 8, 1893. Asci about 75 x 7.5 μ. Spores 60 to 75 x 4 μ, hyaline, nucleate, curved, often slightly thickened toward one end (*Nuttall*, 1296, 245).

C. trichospora (C. & P.) Sacc?

On *Quercus sp.*, Feb. 1894. Spores+50? μ (*Nuttall*, 1450).

HYPOCREACEÆ.

HYPOMYCES Fr.

H. rosellus (Alb. & Schw.) Tul?

On *Hymenocetum* on *Magnolia Fraseri*, March 6, 1894 (*Nuttall*, 1417, 387).

H. aurantius (Pers.) Fckl.

On *Stereum* sp. Sept. 3, 1893 (*Nuttall*, 1198). Short Creek, alt. 1,800 ft.

NECTRIA Fr.

N. cinnabarina (Tode) Fr.

On *Aralia spinosa*, March 5, 1894. Asci 75 x 7.5 μ. Spores 20 to 23 x 4 to 5 μ (*Nuttall*, 1405, 374).

N. coccinea (Pers.) Fr?

On bark of dead *Magnolia Fraseri*, March 1894. Asci 65 x 7.5 μ. Spores 10 to 15 x 3.5 to 6 μ (*Nuttall*, 1472, 451).

N. ditissima Tul.

On dead and fallen *Robinia Pseudacacia*, on *Magnolia Fraseri*, Oct. 17, 1893 (*Nuttall*, 1115, 162).

N. vulpina, Cke.

On bark of dead *Ulmus pubescens*? Oct. 17, 1894. Spores 10 x 5 μ, 1-septate, 2-guttulate (*Nuttall*, 1216, 164).

N. episphæria (Tod.) Fr.

On dead fallen twigs, Aug. 15, 1893 (*Nuttall* 1175, 143).

APONECTRIA Sacc.

A. inaurata (B. & Br.) Sacc.

On *Rhus copallina*, Mar. 24, 1894 (*Nuttall*, 1431). Microspores 3 x 1 μ. Spores 10 to 12.5 x 3 μ.

HYPOCREA Fr.

H. Virginiensis E. & E. Proc. Phila. Acad., 442 (1893).

TYPE HABITAT: On leaves of *Rhododendron maximum*, Aug. 12, 1893 (*Nuttall*, discov. 1163).

Epiphyllous, stroma carnose, scattered, sub-hemispherical or depressed-turbinate, 1 to 2 mm. diameter, of a yellowish gray color, subtruncate above and obscurely margined (when mature). Perithecia buried in the stroma, ovate, membranaceous, 110 to 150 μ diameter. Ostiola hemispherical, prominent, black, broadly perforated and sometimes collapsed. Asci clavate-cylindrical, p. sp. 40 to 45 x 7 to 8 μ, short-stipitate, filiform-paraphysate, 8-spored. Sporidia biseriate, oblong-fusoid, yellowish-hyaline, uniseptate, slightly constricted at the septum, obtusely pointed at the ends, 10 to 12 x 3 to 3.5 μ.

H. viridans B. & C. seems to differ in its hidden ostiola (ostiolis latitantibus).

H. tenerrima E. & E., Proc. Phila. Acad., 442 (1893).

TYPE HABITAT: Incrusting moss, leaves, twigs, living *Gaultheria procumbens*, etc. July 1893 (*Nuttall*, discov. 1138, 123).

Perithecia gregarious, minute (.16 mm.), clothed (except the black apex) with a thin white tomentum, seated on a thin snow-white, tomentose-arachnoid subiculum. Asci cylindrical, 40 x 3 μ, without paraphyses, 8-spored. Sporidia uniseriate, oblong, obtuse, hyaline, 5 to 6 x 2 μ, with a single nucleus in the centre (becoming uniseptate)?

This is closely allied to *H. subcarnea* E. & E., but differs in the color of the subiculum, the black apex of the perithecia, the narrower asci, and rather longer sporidia.

HYPOCREOPSIS Karst.

H. riccoidea (Bolt.) Karst.

On *Kalmia latifolia*, alt. 2,000 ft., Aug. 24, 1893. Spores apparently moniliform (*Nuttall*, 1178).

GIBBERELLA Sacc.

G. Saubinetii (Mont.) Sacc.

On *Asparagus officinalis*, Nov. 1, 1893 (*Nuttall*, 1243, 190).

BROOMELLA Sacc.

B. Ravenelii (Berk.) Sacc.

On *Acer rubrum*, April 4, 1894 (*Nuttall*, 1461, 439).

PLEONECTRIA Sacc.

P. Missouriensis (E. & E.)

On dead stick, March 10, 1893 (*Nuttall*, 871).

CORDYCEPS Fries.

C. militaris (Linn.) Link.

In laurel thicket on ground, Aug. 12, 1893, Keeney's Creek (*Nuttall*, 1205, 161).

C. ophioglossoides (Ehrh.) Link.
On ground in wet woods, Aug. 24, 1893 (*Nuttall*, 1172).

DOTHIDEACEÆ.

PHYLLACHORA Nits.

P. GRAMINIS (Pers) Fckl.
On living leaves of *Hysterix Hysterix*, Fayette Co., near Nuttallburg (*Millspaugh*). On *Elymus Canadensis*, Oct. 28, 1893 (*Nuttall*, 1250, 192).

P. Caricis (Fr.) Sacc ?
On *Korycarpus diandrus*, March 1, 1894 (immature) (*Nuttall*, 1402, 238).

DOTHIDELLA Speg.

D. Ulmæ (Sz.) E. & E.
On *Ulmus pubescens*, Nov. 5, 1894 (*Nuttall*, 1749, 629).

PLOWRIGHTIA Sacc.

P. MORBOSA (Schw.) Sacc.
On limbs of cultivated Plum and Cherry, Monongalia Co., near Morgantown (*Millspaugh*).

MICROTHYRIACEÆ.

MYIOCOPORON Speg.

M. Smilacis (De Not) Sacc.
On *Smilax* sp. April 12, 1895 (*Nuttall*, 1807).

LOPHIOSTOMACEÆ.

LOPHIOTREMA Sacc.

L. Nucula (Fr.) Sacc.
On dead heartwood of *Liquidambar Styraciflua*, April 20, 1894 (*Nuttall*, 1479, 459).

LOPHIDIUM Sacc.

L. nitidum E. & E., Proc. Phila. Acad., 333 (1894).
TYPE HABITAT: On *Vitis* cult. Feb. 2, 1894 (*Nuttall*, discov. 1336, 295).
Perithecia scattered, semi-erumpent, small (200 to 250 μ diameter) black and shining, subhemispherical, the flattened base immersed in the bark. Ostiolum compressed, thin, narrow, sometimes obsolete. Asci cylindrical, short (8 to 10 μ), stipitate, about 100 x 10 to 12 μ, paraphysate, 8-spored. Sporidia uniseriate, oblong-elliptical, yellow-brown, 5 to 7-septate with a longitudinal septum running through two or more cells, 19 to 22 x 8 to 10 μ, ends mostly rounded and obtuse, not at all or only slightly constricted in the middle.

L. compressum (Pers.) Sacc.
On *Salix nigra falcata*, April 23, 1894. Asci 70 to 100 x 15 μ, Spores 25 to 30 x 8 to 10 μ (*Nuttall*, 1481, 461).

HELVELLACEÆ.

MORCHELLA Dill.

M. esculenta (Linn.) Pers.
Along an old road among grasses and leaves under an oak, April 18, 1893 (*Nuttall*, 897).

M. angusticeps Peck.
On ground, Short Creek, April 18, 1893. Spores 25 to 28 x 15 μ (*Nuttall*, 895).

M. ———— sp.
On ground, Short Creek, 5 cm. high, with smooth spores 28 x 17 μ, April 18, 1893 (*Nuttall*, 896).

GYROMITRA Fr.

G. curtipes Fr.
On ground below cliffs, Short Creek. Asci, fertile part 50 x 16 to 18 μ. Total length 350 μ. Spores 22 to 30 x 10 μ, 2-nucleate (*Nuttall*, 1813).

HELVELLA Linn.

H. macropus (Pers.) Karst?
On ground in woods at base of cliffs, July 15, 1893 (*Nuttall*, 1097).

MITRULA Fr.

M. phalloides (Bull.) Chev.
In water on leaves of *Quercus Prinus*, etc., spores to 20 x 3 μ. Masterson's Glade, June 11, 1893 (*Nuttall*, 935).

M. lutescens B & C.
On ground and on dead logs in deep woods, alt. 2,000 ft. (*Nuttall*, 1024).

SPATHULARIA Pers.

S. clavata (Schæf.) Sacc?
In woods among dead leaves, stipe dark brown, spores *short* 25 μ, July 10, 1893 (*Nuttall*, 1087).

VIBRISSEA Fr.

V. truncorum (A. & S.) Fr.
On wet dead sticks, alt. 1,800 ft., June 15, 1893 (*Nuttall*, 991).

PEZIZACEÆ.

RHIZINA Fr.

R. inflata (Schæf.) Quél.

On sandstone rock in sandy loam. Blackish-brown, spreading, 2 to 9 cm. x 1 to 3 cm., convex, loosely attached to the soil by strong rootlets from all parts of the underside, margin strongly rolled inward. Asci 375? to 415 x 12.5 μ, spores hyaline, apiculate, large 40 x 10 μ. Keeney's Creek, Nov. 3, 1893 (*Nuttall*, 1224).

GEOPYXIS Pers.

G. nebulosa Cooke.

On dead wet wood at low and high altitudes, Aug. 10, 1893 (*Nuttall*, 1177).

G. carbonaria A. & S.

On ground upon which logs had been burned the previous autumn, April 18, 1893 (*Nuttall*, 908).

PEZIZA Dill.

P. aurantia Pers.

On wet and freshly crushed sandstone ballast, and on filling of sandstone cut on railroad. Spores curiously rough and apiculate at both ends. Nov. 3, 1893 (*Nuttall*, 1225).

P. badia Pers.

On ground, Short Creek, April 18, 1893 (*Nuttall*, 922).

OTIDEA Pers.

O. onotica ochracea Fr.

On ground and on rotten *Tsuga Canadensis*, July 14, 1893. Asci 175 x 10 μ total length, spores 11 to 13 x 7.5 μ, nuclei 2 (*Nuttall*, 1098).

HUMARIA Fr.

H. echinosperma Peck.

In soil of ditch; July 20, 1894 (*Nuttall*, 1630).

SARCOSCYPHA Fr.

S. coccinea Jacq.

On sticks, on ground in damp shady place, March 20, 1893 (*Nuttall*, 852).

S. floccosa Schw.

On a stick in a laurel thicket, alt. 2,000 ft., July 12, 1893 (*Nuttall*, 1112).

LACHNEA Fr.

L. SCUTELLATA, Linn.

On rotting log *Fagus atropunicea* and under bark of wet log *Quercus alba*, Monongalia Co., near Morgantown (*Millspaugh*). On rotten wood in old drift of mine, and on bare sandy ground among pebbles, Short Creek, May 11–17, 1893 (*Nuttall*, 936).

L. umbrarum Fr.
On open bare sandy soil, Short Creek, May, 1893 (*Nuttall*, 1107).

L. hirta Schum.
On floor of cave, July 25, 1893 (*Nuttall*, 1127).

L. vitellina Pers.
On dead log. Asci 235 x 15 μ, Short Creek, July 2, 1893 (*Nuttall*, 1114).

L. ERINACEUS, Schw.
On underside of log *Quercus alba*, Monongalia Co., near Morgantown (*Millspaugh*).

SCLEROTINIA Fuckel.

S. trifoliorum Eriks.
On ground in open woods, May 18, 1893 (*Nuttall*, 960).

HELOTIUM Fr.

H. lacteum E. & E., Proc. Phila. Acad., 145 (1893).
On bare log, Dec. 16, 1893. Pure white, stipitate, plane .4 to .6 mm. asci clavate 95 to 110 x 7.5 μ. Spores curved 16 to 25 x 3 to 4 μ, nuclei 4, paraphyses slender, Short Creek near the falls (*Nuttall*, 1318).

H. herbarum (Pers.) Fr.
On *Polymnia Uvedalia*, Nov. 15, 1894. Cups 6 to 12 mm. diameter, stipes 1 to 2 mm. long. Asci 55 to 75 x 7.5 to 10 μ. Spores 12 to 15 x 2.5 μ (*Nuttall*, 1755).

H. confluens Schw.
On dead logs, alt. 1,800 ft. Oct. 20, 1893 (*Nuttall*, 1213).

H. citrinum (Hedw.) Fr.
On wet dead log. Short Creek, alt. 1,800 ft. Sept. 12, 1893. (*Nuttall*, 1201).

H. castaneum Sacc.
On leaves of *Rhododendron maximum*. Short Creek, alt. 1,800 ft. Sept. 12, 1893 (*Nuttall*, 1206).

PHIALEA Fr.

P. virgultorum (Vahl.) Sacc.
On old grape twigs on wet ground. Asci 105 x 7.5 μ. Spores 18 x 4 μ. Nov. 1, 1894 (*Nuttall*, 1735).

PSEUDOHELOTIUM Fckl.

P. fibrisedum (B. & C.) Sacc.
On wet dead wood of *Juglans cinerea*, Dec. 5, 1894. More than 2 mm diameter, margin ciliate, red-maculate; asci oblong short-stipitate, total length 65 x 7.5 μ (*approx.*), paraphyses filiform. Spores hyaline 1-septate (?) oblong, straight or slightly curved, 12 to 18 x 3 μ (*Nuttall*, 1764).

CYATHICULA De Not.

C. quisquiliaris E. & E., Proc. Phila. Acad., 451 (1893).

TYPE HABITAT: On dead racemes of *Quercus Prinus*, on dead leaves, on rock in woods, April 2, 1893 (*Nuttall*, discov. 941).

Gregarious, sessile, 1 to 1.5 mm. diameter, cup-shaped, disk pale with a tinge of brick color when dry, dull, dirty-white and purpuraceo-squammulose outside, margin distinctly cleft-toothed and incurved when dry. Asci cylindrical, subsessile, 55 to 65 x 6 to 7 μ, with filiform paraphyses scarcely thickened above. Sporidia uniseriate, or sub-biseriate above, elliptical, hyaline, continuous, 6 to 8 x 3 to 4 μ.

CHLOROSPLENIUM Fr.

C. æruginosum (Œder) De N.

On loose core inside dead tree, Nov. 6, 1893. Disk more brilliant than margin in light and when young, in shadow varying to pure white. Asci over 105 x 7.5 μ total length, spores guttate 12.5 x 3 μ (Nuttall, 1235).

C. versiforme (Pers.) Karst.

On rotten mossy log, Short Creek, Oct. 28, 1893 (*Nuttall*, 1238).

C. Schweinitzii Fr.

Top of oak log, Dec. 10, 1893. Yellow in spring, green in autumn and winter (*Nuttall*, 1276).

MOLLISIA Fr.

M. Dehnii (Rabenh) Karst.

On *Potentilla Monspeliensis*, July 21, 1894 (*Nuttall*, 1618).

M. pinastri (C. & P.) Sacc.

On *Pinus Virginiana*, Dec. 3, 1894 (*Nuttall*, 1763).

M. CINEREA (Batsch.) Karst.

Peziza cinerea Batsch. On decayed log, Monongalia Co., near Morgantown (*Millspaugh*).

PYRENOPEZIZA Fuckel.

P. lacerata (C. & P.) Sacc.

On *Rubus odoratus*, May 31, 1894. Asci 45 to 50 x 5 to 6 μ. Spores 8 to 12.5 x 2 to 2.5 μ (*Nuttall*, 1529).

TAPESIA Pers.

T. sanguinea (Pers.) Fckl.

On dead log, and on *Magnolia Fraseri* and *Juglans cinerea*, June 10, 1894 (*Nuttall*, 1546).

T. fusca (Pers.) Fckl.

On rotten burned log *Tsuga Canadensis;* on dead rotting log *Juglans cinerea*, alt. 1,300 ft. Asci 45 to 92 x 495 μ. Spores 8 to 10 x 2 μ. Short Creek, Feb. 2, 1894 (*Nuttall*, 1365).

T. subiculata (Schw.) Sacc.
On wet sticks, June 15 and Oct. 25, 1893. Spores large, 10 x 3 μ (*Nuttall*, 992).

LACHNELLA Fr.

L. Virginica E. & E., Proc. Phila. Acad. 349 (1894).
TYPE HABITAT: On decaying wood of *Magnolia Fraseri*, Feb., 1894 (*Nuttall*, discov. 1410, 380).

Gregarious, sessile, .75 to 1.2 mm. diameter. Disk pallid, concave, nearly closed when dry, margin fringed with brown septate hairs, 100 to 125 x 3 μ, outside clothed with shorter reddish-brown hairs. Asci about 50 x 5 μ, clavate-cylindrical, short stipitate, paraphysate, 8-spored. Sporidia sub-biseriate, oblong, 6 to 8 x 1.5 to 2.5 μ.

TRICHOPEZIZA Fuckel.

T. ———— —sp.
Torn end of firm dead tree, Short Creek, alt. 1,800 ft. Dec. 16, 1893 (*Nuttall*, 1326).

T. albo-lutea (Pers.) Sacc.?
On rotten log, Short Creek, June 18, 1893, stipitate (*Nuttall*, 1013).

T. capitata (Peck) Sacc.
On leaves *Quercus palustris* on ground in woods, alt. 2,000 ft., June 18, 1893. At Rupert's, July 26, 1894 (*Nuttall*, 1011).

DASYSCYPHA Fr.

D. virginea (Batsch) Fckl.
On dead sticks on wet cliff, and on wet dead wood of *Juglans cinerea*, June 12, 1893 (*Nuttall*, 841).

D. Ellisiana (Rehm.) Sacc.
On *Pinus rigida*, top of Cavendish cliff, April 8, 1894 (*Nuttall*, 1447).

HELOTIELLA Sacc.

H. Nuttallii E. & E., Proc. Phila. Acad., 351 (1894).
TYPE HABITAT: On wet shady side of rotten log, March 15, 1894 (*Nuttall*, discov. 1425, 397).

Ascomata gregarious, sessile, flat-hemispherical, .5 to 1 mm. diameter, cup-shaped when fresh, contracted and sub-spherical when dry with only a small round apical opening, orange color throughout, disk watery-orange, outside and fringed margin paler. Substance fibrous, the fibers prolonged above so as to make a marginal fringe of pale yellow, roughish straight hairs. Asci clavate-cylindrical, sessile, curved, 50 to 60 x 5 to 6 μ. Paraphyses filiform, hardly thickened above, with a series of orange-colored, globose nuclei. Sporidia biseriate, oblong, hyaline, obtuse, uniseptate, but not constricted, 8 to 10 x 2.5 to 3 μ. The outside of the ascomata is slightly hairy so that the species might be referred to *Solenopeziza* if that is really worthy of generic distinction.

DERMATELLA Karst.

D. viticola E. & E., Proc. Phil. Acad., 352 (1894).

TYPE HABITAT: On dead shoots of *Vitis* (cult.) Nov. 1893 (*Nuttall*, discov. 1337, 295).

Sessile, convex-discoid and pale when moist, concave and flesh-color when dry, and then scarcely projecting above the surface of the bark. .50 to .75 mm. diameter. Asci clavate-cylindrical, about 70 x 12 μ, with filiform paraphyses, 8-spored, sub-sessile. Sporidia subbiseriate, oblong elliptical, hyaline, 1 to 3-septate (3 to 4-nucleate at first), 15 to 18 x 6 to 6.5 μ.

BELONIDIUM Mont.

B. AURELIA (Pers.) DeNot.

Peziza aurelia, Pers. On a dead leaf in rotten log, Monongalia Co., at Little Falls (*Millspaugh*).

ERINELLA Sacc.

E. miniopsis (Ell.) Sacc.

On wet rotten wood, May 1893 (*Nuttall*, 934).

ASCOBOLACEÆ.

ASCOBOLUS, Pers.

A. furfuraceus Pers.

On old dung of cow, June 8, 1893 (*Nuttall*, 974).

A. carbonarius Karst.

On bare spots where logs were burned by forest fire the previous winter, associated with *Geopyxis carbonaria*. It appears that only the prolonged burning of large logs makes proper habitat for this species, as it does not grow where the fire was light. May 20, 1893 (*Nuttall*, 926).

ASCOPHANUS Boud.

A. granuliformis (Cr.) Boud. ?

On dung of cow, Dec. 1893 (*Nuttall*, 1340, 298).

A. carneus (Pers.) Boud.

On dung of cow Oct. 10, 1893 (*Nuttall*, 1249, 182).

DERMATEACEÆ

URNULA Fr.

U. Craterium (Schw.) Fr.

On dead twigs on ground, Short Creek, April 15, 1893 (*Nuttall*, 898).

DERMATEA Fr.

D. Chionanthi E. & E?·

Macrostylospores of this species? on *Chionanthus Virginica*, March, 25, 1894 (*Nuttall*, 1454, 426).

D. lobata Ellis.

On the maculæ of *Pestalozzia Guepinii* on leaves of *Rhododendron maximum*. Asci 130 x 12.5 μ spores 15 x 8 μ. Aug. 15, 1895 (*Nuttall* 1162, 132).

TYMPANIS Tode.

T. Oxydendri E. & E., Proc. Phila. Acad., 352 (1894).

TYPE HABITAT: On dead limbs of *Oxydendron arboreum*, Dec. 12, 1893 (*Nuttall* discov., 1296, 258).

Cespitose, 3 to 5 together, erumpent, at length deciduous, black .5 to .75 mm. diameter, contracted below into a short thick stipe, margin subundulate. Asci cylindrical 110 to 130 x 15 to 18 μ including the short stipe. Paraphyses slender, abundant, Sporidia numerous, minute, oblong, hyaline or yellowish 2.5 to 3 x 1 μ, Allied to *T. fasciculata*, but asci larger and sporidia smaller.

CENANGELLA Sacc.

C. Aceris (Hazsl.) Sacc.

On bark of dying *Acer rubrum*, June 10, 1894. Sporidia 15 x 6 μ (*Nuttall*, 1554).

SCLERODERRIS Fr.

S. rhabarbarina (Berk) E. & E.

On *Rubus Baileyanus*, Dec. 8, 1893, Short Creek. Asci total length 63 to 75 x 17 to 21 μ, 8-spored, clavate, very short stipitate. Spores 20 to 27 x 6 to 7.5 μ, nucleate, becoming clearly 3-septate and rather one-sided (*Nuttall*, 1294, 242).

S. pallidula (Cooke) Sacc.

On dead branches and bark of *Acer saccharinum*, L., Feb. 26, 1894. On *Oxydendron arboreum*. Sporidia 20 to 22 x 7 μ (*Nuttall*, 1408, 665).

BULGARIACEÆ.

LEOTIA Hill.

L. lubrica (Scop.) Pers.

On ground, alt. 1,800 ft., Short Creek, Aug. 14, 1893 (*Nuttall*, 1150).

ORBILIA Fr.

O. rubella (Pers.)

On decorticated log, *Liriodendron Tulipifera*, Sept. 19, 1895 (*Nuttall*, 1858, 748).

O. vinosa (A. & S.) Karst.

On *Poria spissa*, Nov. 6, 1893 (*Nuttall*, 1261).

O. occulta (Rehm) Sacc.
On dead log, Aug. 20, 1893 (*Nuttall*, 1202).

O. coccinella (Somm.) Karst.
On dead log *Juglans cinerea*, Short Creek, July 25, 1893 (*Nuttall*, 1134, 663).

O. Xanthostigma Fr.
On decorticated limbs *Magnolia Fraseri*, Sept. 1895 (*Nuttall*, 1855, 742, 743).

BULGARIA Fr.

B. inquinans (Pers.) Fr.
In clefts of bark of trees and railroad ties, Oct. 10, 1893 (*Nuttall*, 1210).

CORYNE Tul.

C. URNALIS (Nyl.) Sacc.
On rotting log *Fagus atropunicea*; under bark of *Quercus alba* log, Monongalia Co., near Morgantown (*Millspaugh*). On wet mossy logs, alt. 1,800 ft. and over, Oct. 10, 1893 (*Nuttall*, 1212, 167).

HOLWAYA Sacc.

H. ophiobolus (Ellis) Sacc.
On bark of dead *Magnolia Fraseri*, alt. 1,800 ft., Dec. 16, 1893, Short Creek (*Nuttall*, 1323, 279).

STICTACEÆ.

PROPOLIS Fr.

P. faginea (Schrad.) Karst.
On *Juglans cinerea* and on old board of *Liriodendron Tulipifera*, Dec. 5, 1894 (*Nuttall*, 1765, 660). On *Liquidambar styraciflua*.

P. Leonis (Tul.) Rehm.
On bark of *Pinus rigida* and *Virginiana*, June 31, 1894 (*Nuttall*, 1581).

STICTIS Pers.

S. fimbriata Schw.
On strobiles of *Pinus Virginiana*, alt. 2,000 ft., March, 1894 (*Nuttall*, 1468, 443). Sporidia 5 to 7 x 1.5 μ.

PHACIDIACEÆ.

RHYTISMA (Pers.) Fr.

R. punctatum (Pers.) Fr.
On leaves of *Acer Pennsylvanicum*, alt., 2,000 ft., Oct. 22, 1893 (*Nuttall*, 1217, 168).

R. decolorans Fr.
On *Xolisma ligustrina*, at Rupert's, July 26, 1894 (*Nuttall*, 1638, 569).

R. Prini Schwein.
On leaves of *Ilex verticillata*, at Rupert's, Sept. 7, 1894 (*Nuttall*, 1677).

PATELLARIACEÆ.

DURELLA Tul.

D. commutata Fckl.
On dead log, Short Creek, Dec. 16, 1893 (*Nuttall*, 1328).

LECANIDION Rabenh.

L. atratum (Hedw.) Rabenh.
On *Aralia spinosa*, Feb. 17, 1894. Sporidia 50 x 12.5 μ (*Nuttall*, 1390, 359).

L. Hamamelidis (Peck) Sacc.
On bark of *Hamamelis Virginica*. Sporidia 1 to 3 septate when mature. Dec, 18, 1894 (*Nuttall*, 1772).

CALICIACEÆ.

CALICIUM Pers.

C. tigillare (B. & Br.) Sacc.
On *Polyporus pergamenus*, Aug. 23, 1893 (*Nuttall*, 1159).

GYMNOASCACEÆ.

EXOASCUS Fckl.

E. DEFORMANS (Berk.) Fckl.
Taphrina deformans Tul. On leaves of *Amygdalus Persica*, Jefferson Co., near Charlestown (*Millspaugh*).

E. PRUNI Fckl.
Taphrina Pruni Tul. On fruits of *Prunus domestica*, Monongalia Co., at Morgantown (*Millspaugh*).

HYSTERIACEÆ.

GLONIUM Mühl.

G. stellatum Mühl.
On rotten oak plank, and on *Sassafras Sassafras*, July 28, 1893 (*Nuttall*, 1128).

G. parvulum (Ger.) Sacc.
On fence rails *Castanea dentata*, April 20, 1894 (*Nuttall*, 1496).

G. simulans Ger.
On old fence rails, alt. 2,000 ft., March 16, 1894. Asci 75 x 7.5 to 10 μ. Spores 13 to 18 x 5 μ. On *Juglans cinerea*, asci 65 x 10 μ. Spores 12 to 15 x 4 to 5 μ (*Nuttall*, 1415).

HYSTERIUM Tod.

H. Kalmiæ Schw. ?
On dead *Kalmia latifolia*, Nov., 1893 (*Nuttall*, 1287, 232).

HYSTEROGRAPHIUM Corda.

H. insidens (Schw.) Sacc.

On old fence rails, April 6, 1894. Largest spores 43 x 7.5 μ, 11-septate (*Nuttall*, 1452).

H. subrugosum (C. & E.) Sacc.

On old fence rails, May 26, 1894. Spores 33 to 35 x 12.5 μ (*Nuttall*, 1522).

H. Mori (Schw.) Rehm.

On old fence rails, April 6, 1894 (*Nuttall*, 1451).

HYPODERMA DC.

H. DESMAZIERI DuBy.

On living leaves or *Pinus echinata.* Wood Co., near Lockhart's Run (*Millspaugh*).

H. virgultorum DC.

On *Rubus Baileyanus*, Dec. 5, 1893 (*Nuttall*, 1293).

H. commune (Fr.) Duby.

On *Hydrangea arborescens*, Nov. 3, 1893 (*Nuttall*, 1259). On old petioles *Aralia spinosa* (*Nuttall*, 1830, 719).

LOPHODERMIUM Chev.

L. Rhododendri (Schw.)

On *Rhododendron maximum*, Sept. 4, 1893 (*Nuttall*, 1192).

L. Pinastri (Schrad.) Chev.

On leaves of *Pinus rigida*, Short Creek, Aug. 2, 1893 (*Nuttall*, 1158).

L. culmigenum (Fr.) Karst.

On straw brought in from Ohio, May 24, 1894. Measurements of asci and spores prove to be the same as those of *L. arundinaceum* (Schrad.) Chev. (*Nuttall*, 1496).

OSTROPA Fr.

O. cinerea (Pers.) Fr. ?

Issuing from cracks in a decorticated log, May 31, 1894 (*Nuttall*, 1526).

AGARICACEÆ.

AMANITA Pers.

A. verna Fr.

On ground in open woods, July 11, 1893. Spores round 7.5 μ (*Nuttall*, 964).

A. MUSCARIA Linn.

Rooted on buried limb of *Betula lenta*, Grant Co., near Bayard (*Millspaugh*).

An ecarunculate form, apparently of this species, on leaf mold in deep woods, same locality.

A. muscaria alba Peck.
On ground in laurel thicket, Short Creek, alt. 2,000 ft. Has the odor of buttermilk. Spores 9 x 6 μ (*Nuttall*, 1131).

A. flavo-rubens Berk.
On ground in woods, Short Creek, July 6, 1893 (*Nuttall*, 1078).

A. polypyramis B. & C.
Among bushes, alt. 2,400 ft., July 6, 1893. Largest stipes 15 cm. long, thick, heavy and deep in ground. Pileus 15 cm. broad. Spores 10 x 6 μ (*Nuttall*, 1101).

AMANITOPSIS Roze.

A. nivalis (Grev.) Sacc.
In loam on rocks in laurel tangle, June 26, 1893 (*Nuttall*, 1004).

TRICHOLOMA Fr.

T. fumoso-luteum Peck?
On unknown substance, June 15, 1893, Short Creek (*Nuttall* 990).

CLITOCYBE Fr.

C. illudens Schwein.
On old stumps in clusters of about eight, dark and deep rich orange color throughout, +20 cm. x +12 cm. broad, stipe + 25 mm. thick. Spores +6 μ diameter, uneven. July 14, 1893 (*Nuttall*, 1093).

C. laccata Scop.
Common in wet sand, bank of Short Creek, alt. 2,000 ft., July 28, 1893. Spores 10 μ diameter, echinate (*Nuttall*, 1124).

COLLYBIA Fr.

C. RADICATA Relh.
On leaf mold in rich woods, Monongalia Co., near Morgantown (*Millspaugh*). May 17, 1893 (*Nuttall*, 980).

C. platyphylla Fr.
On mold and moss on trunk of tree, Short Creek, June 15, 1893 (*Nuttall*, 981).

C. velutipes Curt.
About roots of rotting stumps, Jan. 31, 1895 (*Nuttall*, 830).

C. conigenoides Ellis.
On last year's cones *Magnolia Fraseri*, Sept. 18, 1895 (*Nuttall*, 1848).

C. DRYOPHILA Bull.
In moss on log in deep woods, Grant Co., near Bayard (*Millspaugh*).

MYCENA Fr.

M. ——— ——— ——— sp.
White. On mossy stump, July 4, 1893 (*Nuttall*, 1019).

M. GALERICULATA Scop.
In rich woods under oak twig, and oak bark on log, Monongalia Co., near Morgantown (*Millspaugh*). On damp dead logs, May 7, 1893 (*Nuttall*, 930).

M. epipterygia Scop.
On moss-covered log and in clefts of bark, Feb. 28, 1893 (*Nuttall*, 948).

OMPHALIA Fr.

O. CAMPANELLA Batsch.
On leaf mold at base of *Castanea dentata*, Preston Co., near Terra Alta (*Millspaugh*). On rotten log in thicket, June 18, 1893 (*Nuttall*, 1009).

PLEUROTUS Fr.

P. corticatus Fr.?
On fallen *Acer* sp. Gills not anastomosing, July 28, 1893 (*Nuttall*, 1123).

P. sapidus Kalchbr.
On dead log, Feb. 2, 1893 (*Nuttall*, 850).

P. serotinus Schrad.
On dead trunks, Nov., 20, 1893 (*Nuttall*, 1267).

P. cyphelliformis Berk.
On dead stems of *Polymnia Uvedalia*, Nov. 15, 1894 (*Nuttall*, 1742).

P. niger Fr.
On bark of dead tree, May 13, 1893 (*Nuttall*, 953).

HYGROPHORUS Fr.

H. nitidus B. & C.
On decayed log, May 14, 1893 (*Nuttall*, 968).

LACTARIUS Fr.

L. cilicioides Fr.
On border of woods and swamp, July 4, 1893 (*Nuttall*, 1020).

RUSSULA Pers.

R. emetica Fr.?
In woods, July 4, 1893 (*Nuttall*, 1021).

CANTHARELLUS Adans.

C. minor Peck?
On ground in woods, alt. 2,000 ft., July 4, 1893 (*Nuttall*, 1023).

C. Wrightii Berk?
Wet sand of river bank in shade, July 18, 1893. Whole plant light red except gills, which are little deeper red than salmon-color, gills decurrent, veined between, pileus more convex than

plane, and depressed edge wavy, rather tough. Largest 4 cm. broad, stem 5 cm. high, 5 mm. thick. Spores 7.5 to 8.5 x 3.5 to 5 μ, apparently rough and guttulate inward (*Nuttall*, 1104).

C. tubæformis Fr.?
On rotten wood in woods, alt. 2,000 ft., July 4, 1893 (*Nuttall*, 1022).

C. floccosus Schw.
On open bank of stream in laurel thicket, alt. 2,000 ft., June 20, 1893. Largest squamules .75 cm. long, thick and triangular, forming a cone which closes the funnel below the top an inch or more. Spores 15 x 7.5 μ (*Nuttall*, 992).

NYCTALIS Fr.

N. asterophora Fr.
On dead Agaric in deep damp woods, July 14, 1893. Stars 20 μ diameter (*Nuttall*, 1096).

MARASMIUS Fr.

M. semihirtipes Peck.
On dead leaves, sticks, etc., Short Creek, May 14, 1893 (*Nuttall*, 967).

M. ramealis (Bull.) Fr.
Very common on twigs and leaves in laurel thickets, June 15, 1893 (*Nuttall*, 994).

M. OPACUS B. & C.
Common on dead branches *Rhododendron maximum*, Grant Co., near Bayard (*Millspaugh*).

M. campanulatus Peck.
On dead leaves and sticks in damp woods, Short Creek, alt. 1,300 ft., Aug. 16, 1893 (*Nuttall*, 1153).

M. ROTULA (Scop.) Fr.
On dead limb of *Betula lenta*, Grant Co., near Bayard (*Millspaugh*). On stick in open woods, June 8, 1893 (*Nuttall*, 972).

LENTINUS Fr.

L. STRIGOSUS Fr.
On dead log *Betula lutea*, Grant Co., near Bayard (*Millspaugh*). On dead logs, common, May 6, 1893 (*Nuttall*, 904).

PANUS Fr.

P. stipticus (Bull.) Fr.
On fallen dead limb, Jan. 29, 1893 (*Nuttall*, 950).

P. dorsalis Bosc.
On *Tsuga Canadensis*, Sept., 1893 (*Nuttall* 1253, 196).

TROGIA Fr.

T. crispa (Pers.) Fr.
On various dead dry logs and limbs, March 21, 1893 (*Nuttall*, 875).

LENZITES.

L. betulina (Linn.) Fr.
On logs, Sept. 6, 1893 (*Nuttall*, 837).

L. SEPIARIA Fr.
On decorticated stumps *Picea Mariana*, Tucker Co., near Falls of Blackwater (*Millspaugh*).
A resupinate form on dead logs *Tsuga Canadensis* Grant Co.

L. abietina (Bull.) Fr.
On dead branches *Tsuga Canadensis*, alt. 1,600 ft., Dec. 15, 1893 (*Nuttall*, 1301).

L. corrugata Klot.
On *Castanea dentata*, alt. 1,800 ft., Dec. 19, 1893 (*Nuttall*, 1302).

SCHIZOPHYLLUM Fr.

S. COMMUNE Fr.
On bark log *Quercus alba*, Grant Co., near Bayard. On dead twig *Pyrus Malus*, Monongalia Co., near Morgantown (*Millspaugh*). On dead logs, Jan. 30, 1893 (*Nuttall*, 827).

VOLVARIA Fr.

V. BOMBYCINA (Pers.) Fr.
On dead insect sp? Monongalia Co., near Morgantown (*Millspaugh*).

CLITOPILUS Fr.

C. abortivus Fr.
Wet woods, alt. 1,800 ft, aborted specimens in quantity, Sept. 4, 1893 (*Nuttall*, 1190).

AGARICUS Linn.

A. Rodmani Peck.
On ground, June 28, 1893 (*Nuttall*, 1005).

A. campester Linn.
On lawn, June 24, 1893 (*Nuttall*, 1002).

A. silvicola Vitt.
In woods, Short Creek, alt. 1,150 ft. (*Nuttall*, 1699). Spores 5 to 7 x 3 to 4 μ.

A. silvaticus Schæff.
In woods, Short Creek, July 2, 1893 (*Nuttall*, 1117).

STROPHARIA Fr.

S. STERCORARIA Fr.
On decaying vegetable matter, Preston Co., near Terra Alta (*Millspaugh*).

HYPHOLOMA Fr.

H. SUBLATERITIUM Schæff.
Under bark log *Fraxinus Americana*, Monongalia Co., near Morgantown (*Millspaugh*).

H. elæodes Fr?
On sticks on ground, May 18, 1893 (*Nuttall*, 858).

COPRINUS Pers.

C. variegatus Peck?
On stick in shady place, Aug. 11, 1893 (*Nuttall*, 1143).

C. micaceus (Bull) Fr.
On bases of stumps in woods, July 8, 1893 (*Nuttall*, 1081).

C. domesticus (Pers.) Fr.
In woods on mixture of manure and leaf mold. June 29, 1893 (*Nuttall*, 1007).

C. semilanatus Peck?
In heavily manured asparagus bed in garden, Apr. 29, 1893 (*Nuttall*, 903).

C. ephemerus Fr.
On horse dung, July 2, 1893 (*Nuttall*, 1113).

C. angulatus Peck.
On baked soil where log had been burned, with *Peziza carbonaria*, May 8, 1893 (*Nuttall*, 932).

PANÆOLUS Fr.

P. CAMPANULATUS Linn.
On cow dung in deep coniferous woods, Grant Co., near Bayard (*Millspaugh*). Plentiful on manured lawn, May 8, 1893, (*Nuttall*, 933).

PSATHYRELLA Karst.

P. disseminata Pers.?
In rotten mold about the base of a stump, a mass about 1 meter containing perhaps thousands of specimens. Specimens 3 to 5 cm. high, thin, fleshless. Pileus 1 cm. broad, 8 mm. high, slightly umbonate, sulcate striate, mealy, gray. Stems white, smooth 1 mm thick, at first slightly furfuraceous. Largest stems 6 cm., broadest pileus 18 mm. Spores 6 to 10 x 3 to 5 μ (*Nuttall*, 1189). Sept. 3. 1893.

POLYPORACEÆ.

BOLETUS Dill.

B. speciosus Frost.
On ground in woods, alt. 2,000 ft. July 16, 1893 (*Nuttall*, 1099).

B. chrysenteron Fr.
In deep woods, June 18, 1893 (*Nuttall*, 987).

B. parasiticus Bull.
On *Scleroderma vulgare* wet woods, alt. 1,800 ft., Sept. 4, 1893 (*Nuttall*, 1191).

B. edulis Bull.
Old field under *Rhus copallina*, June 20, 1893. Pileus 15 x 10 cm. stipe 4.5 cm. Spores 10 to 14 x 3 to 4 μ (*Nuttall*, 990).

STROBILOMYCES Berk.

S. strobilaceus (Scop.) Berk.
Shady fence row, alt. 2,300 ft., Sept. 16, 1893 (*Nuttall*, 1100). Spores about 10 μ, round.

FISTULINA Bull.

F. hepatica Fr.
On dead stumps, alt. 2,000 ft., July 16, 1893 (*Nuttall*, 1102).

POLYPORUS Mich.

P. brumalis (Pers.) Fr.
On dead logs, Mar. 6, 1893 (*Nuttall*, 1835).

P. pocula (Schw.) B. & C.
On dead *Rhus copallina*, Glade Creek, May 4, 1894 (*Nuttall*, 1495, 478).

P. arcularius (Batsch) Fr.
On rotten logs, Short Creek, May 6, 1893. Largest 4 cm. broad, stipe 2.3 cm. (*Nuttall*, 929).

P. varius Fr.
On dead logs, Aug. 18, 1893. Thin, tough, 20 cm. broad (*Nuttall*, 840).

P. UMBELLATUS Fr.
In dry exposed hollow of oak stump, Monongalia Co., near Morgantown (*Millspaugh*).

P. lactifluus Peck.
On ground in open woods, June, 1893; Aug. 24, 1893. Height 30 cm., greatest breadth 60 cm. (*Nuttall*, 1171).

P. BERKELEYI Fr.
In dry exposed hollow of oak stump, Monongalia Co., near Morgantown (*Millspaugh*).

P. SULPHUREUS (Bull.) Fr.
On decaying oak stump, Monongalia Co., near Morgantown (*Millspaugh*).

P. nidulans Fr.
P. niveus, Fr. On dead trunk *Prunus serotina*, Short Creek, alt. 1,000 ft., July 8, 1894 (*Nuttall*, 1599, 548).

P. ADUSTUS (Willd.) Fr.
On dead branch *Rhus hirta*, and in decayed stump *Hicoria ovata*, Monongalia Co., near Morgantown (*Millspaugh*). On sides of dead logs, Feb. 2, 1893 (*Nuttall*, 851).

P. hypococcineus Berk?
A resupinate form of this species, or new (E. & E). Underside of dead log, Oct. 15, 1893 (*Nuttall*, 1214, 166).

P. pubescens (Schum.) Fr.
On dead *Betula* sp. July 27, 1894 (*Nuttall*, 1673).

P. resinosus (Schrad.) Fr.
On dead log, March 24, 1893 (*Nuttall*, 879).

P. Pilotæ Schw.
On dead rotten log, Sewell Valley, Aug. 23, 1894 (*Nuttall*, 1661).

FOMES Fr.

F. LUCIDUS (Leys.) Fr.
On dead logs *Tsuga Canadensis*, Preston Co., near Terra Alta (*Millspaugh*). On old stumps in deep woods, April 10, 1893, full grown in June (*Nuttall*, 892).

F. volvatus Peck.
On west side *Pinus Virginiana*, March 8, 1893 (*Nuttall*, 870).

F. pinicola Fr.
On fallen trunks *Tsuga Canadensis*, Short Creek, May 1, 1893 (*Nuttall*, 924).

F. APPLANATUS (Pers.) Wallr.
On dead *Acer saccharum* and *Quercus palustris*, *alba* and *rubra* Wood Co., near Kanawha Station, and McDowell Co., near Elkhorn. On dead *Fraxinus Americana*, Grant Co., near Bayard, and Monongalia Co., near Morgantown (*Millspaugh*). On dead logs, Jan., 1893 (*Nuttall*, 828).

F. FOMENTARIUS (Linn.) Fr.
On dead *Betula lutea*, Grant Co., near Bayard (*Millspaugh*). On dead log, at Rupert's, July 26, 1894 (*Nuttall*, 1635).

F. RIMOSUS Berk.
On dead *Robinia Pseudacacia*, Monongalia Co., near Morgantown (*Millspaugh*). On same sp. and on oak? alt. 2,000 ft., March 21, 1893 (*Nuttall*, 914).

F. CARNEUS Nees.
On dead decorticated *Picea Mariana*, Tucker Co., near Falls of Blackwater (*Millspaugh*). On *Pinus Virginiana*, March, 1893 (*Nuttall*, 865).

POLYSTICTUS Fr.

P. PERGAMENUS Fr.
On dry exposed oak railroad tie, Monongalia Co., near Morgantown (*Millspaugh*). On various dead trees, Feb. 17, 1893 (*Nuttall*, 847).

P. CINNABARINUS (Jacq.) Fr.
On dead limbs of cultivated *Prunus*, Monongalia Co., near Morgantown (*Millspaugh*). On various dead deciduous trees, Jan. 31. 1893 (*Nuttall*, 829).

P. VERSICOLOR (Linn.) Fr.

On decorticated stump *Picea Mariana*, Tucker Co., near Falls of Blackwater. Under bark of log *Quercus alba*, Monongalia Co., near Morgantown (*Millspaugh*). On various dead trees, Feb., 1893 (*Nuttall*, 834).

P. HIRSUTUS Fr.

On dead twig cultivated *Pyrus Malus*, Monongalia Co., near Morgantown. On dead *Betula lutea*, and on log *Liriodendron Tulipifera*. A form with white spores, on roots fallen *Betula lenta*, Grant Co., near Bayard (*Millspaugh*). On *Fagus atropunicea*, Keeney's Creek, Oct. 20, 1893 (*Nuttall*, 1211).

P. ABIETINUS Fr.

On fallen *Tsuga Canadensis*, Grant Co., near Bayard (*Millspaugh*). On *Pinus Virginiana*, March 4, 1894 (*Nuttall*, 1420, 390).

MUCRONOPORUS E. & E.

M. Everhartii E. & Gall.

On *Ulmus pubescens*, Nov. 6, 1893 (*Nuttall*, 1598).

M. Gilvus (Sz) E. & E.

On *Castanea dentata*, July 20, 1894 (*Nuttall*, 1169, 558).

M. ferruginosus (Schrad.) E. & E.

On *Juglans cinerea*, Aug. 29, 1893 (*Nuttall*, 1183).

PORIA Pers.

P. vulgaris Fr.

On various dead limbs, Feb. 2 and Nov. 20, 1893 (*Nuttall*, 833). A nodular form on oak ties, Nov. 5, 1894 (*Nuttall*).

P. obducens Pers.

On underside of dead log, Feb. 8, 1893 (*Nuttall*, 1297, 246).

P. nigra Berk.

On side and beneath dead *Hicoria*? log. Effused, long and narrow, perennial (*Nuttall*, 1268).

P. tomento-cincta B. & R.

Effused on bark underside of log *Betula lenta*, 60 x 30 cm. One layer taken off on Sept. 16, the same surface of the bark was found to be again covered with the species on Oct. 5, 1895. (*Nuttall*, 1865, 752). On *Magnolia Fraseri*, Nov. 1895.

P. vaporaria Fr.

On *Prunus serotina*, Dec. 8, 1893 (*Nuttall*, 1295, 244).

P. Tulipiferæ Schw.

On *Liriodendron Tulipifera*, April 13, 1893 (*Nuttall*, 893).

P. xantha Fr.

On *Pinus Virginiana*, March 21, 1893 (*Nuttall*, 913).

P. micans (Ehrenb.) Fr.
On burned log, Short Creek, alt. 1,300 ft., Nov. 24, 1893 (*Nuttall*, 1277, 223).

P. corticola Fr.
Underside of young dead *Liriodendron Tulipifera*, diffused through clefts of bark, incrusting other polypori, etc. Alt. 925 ft., Nov. 20, 1893 (*Nuttall*, 1280).

P. sinuosa Fr.?
Appears to be between this and *Irpex obliquus*, preferably this (E. & E.). On *Kalmia latifolia*. Short Creek, alt. 1,800 ft., Aug. 12, 1893 (*Nuttall*, 1166, 138).

P. farinella Fr.
On dead log, Short Creek, alt. 1,800 ft., Sept. 12, 1893 (*Nuttall*, 1204, 160).

TRAMETES Fr.

T. Ohioensis Berk.
On dead standing sapling, Short Creek, alt. 1,800 ft., April 10, 1894 (*Nuttall*, 1467).

T. SEPIUM Berk.
On dry railroad ties, Monongalia Co., near Morgantown (*Millspaugh*). Resupinate form on dead oak beams over a boiler, Dec. 15, 1893 (*Nuttall*, 1300).

T. mollis Fr.?
On drift wood, March 1893 (undeveloped) (*Nuttall*, 1597, 550).

T. odorata Wulf.
On dead limbs in a drain, July 20, 1894 (*Nuttall*, 1628, 557). *Ozonium auricomum*, Link., a curious tawny mycelium, supposed to be intimately connected with this species was found here with this specimen.

D. ambigua Berk.
Trametes ambigua (Berk.) Fr. On dead *Acer* sp., Feb. 2, 1893 (*Nuttall*, 846).

DÆDALIA Pers.

D. confragosa Pers.
On dead *Cornus florida*, Feb. 20, 1894 (*Nuttall*, 1774).

D. unicolor (Bull.) Fr.
On dead *Hicoria ovata*, Dec. 8, 1893 (*Nuttall*, 1298, 247).

MYRIADOPORUS Peck.

M. INDURATUS Peck.
Top of decayed oak stump, Monongalia Co., near Morgantown (*Millspaugh*). Professor Peck remarks, in a letter, on receipt of the specimens: "This is probably only an imperfect condition of *Poria abducens*."

FAVOLUS Fr.

F. Europæus Fr.

On dead branch, Feb. 12, 1894 (*Nuttall*, 1360). Spores 12.5 x 3 μ somewhat curved, obliquely apiculate. Feb. 17, 1895 (*Nuttall*, 1788).

GLŒOPORUS Mont.

G. CONCHOIDES Mont.

On oak chips, Monongalia Co., near Morgantown (*Millspaugh*).

MERULIUS Hall.

M. TREMELLOSUS Schrad.

Under bark *Quercus alba* log, Monongalia Co., near Morgantown (*Millspaugh*). On *Alnus rugosa*, Oct. 31, 1893 (*Nuttall*, 1220).

M. rubellus Peck.

On dead *Quercus alba*, Short Creek, Nov. 9, 1893 (*Nuttall*, 1244).

Also found parasitic on *Stereum versicolor*. In some cases the hymenium simply covers the under surface of the Stereum. In nearly all specimens observed it grows at the base of the host to which it is at least partly adherent. Largest pileus 5 x 5 cm., sometimes laterally connected for 15 cm.

M. Corium Fr.

On branches, April 27, 1895 (*Nuttall*, 1822, 699).

M. molluscus Fr.

On dead limb *Tsuga Canadensis*, Short Creek, alt. 1,800 ft., Feb. 8, 1894 (*Nuttall*, 1399).

M. ambiguus Berk.

On dead *Prunus serotina*, Short Creek, alt. 975 ft., Jan. 1894 (*Nuttall*, 1602).

M. lachrymans (Jacq.) Fr.

On bottom of box in cellar, Feb. 14, 1894 (*Nuttall*, 1379, 341).

M. pulverulentus Fr.

Underside of old logs, Oct. 19, 1893. Spores orange colored, nucleate, 10 x 6 μ (*Nuttall*, 1208).

POROTHELIUM Fr.

P. lacerum Fr.

On dead trunk, Feb. 11, 1894 (*Nuttall*, 1381, 343).

SOLENIA Hoffm.

S. ochracea Hoffm.

On dry dead log, Short Creek, alt. 1,800 ft., Dec. 16, 1893 (*Nuttall*, 1327, 285).

S. villosa Pers.

On fallen dead limb of *Quercus* sp., Sept. 1895 (*Nuttall*, 1854, 741).

HYDNACEÆ.

HYDNUM Linn.

H. imbricatum Linn.
In oak woods, June 18, 1893 (*Nuttall*, 988).

H. adustum Schwein.
On dead limbs on ground, Aug. 11, 1893. Nuclei at first cream-colored gradually changing from perifery to center through reddish purple to dark brown (*Nuttall*, 863).

H. coralloides Scop.
In decayed cleft on living *Fagus atropunicea*, Feb. 13, 1893 (*Nuttall*, 845).

H. erinaceus Bull.
On top dead log and in hollow of living *Fagus atropunicea*, alt. 1,800 ft., Nov. 27, 1894 (*Nuttall*, 1752).

H. ochraceum Pers.
Underside of dead log, April 7, 1893. *Stegonotis fusca* found growing upon this species (*Nuttall*, 891).

H. croceum (Schw.) Fr.
Effused in crevices of dead log, Short Creek, alt. 1,800 ft., March 6, 1894 (*Nuttall*, 1426, 398).

H. cinnabarinum (Schw.) Fr.
Effused under bark of dry dead limb, June 20, 1893 (*Nuttall*, 997).

H. —————— sp.
Underside old decayed log, Feb. 13, 1893. Effused 36 x 12 cm. or more (*Nuttall*, 844).

TREMELLODON Pers.

T. gelatinosum (Scop.) Pers.
On dead *Tsuga Canadensis* Aug. 13, 1893 (*Nuttall*, 1148).

IRPEX Fr.

I. LACTEUS Fr.
On dead *Rhus hirta*, Monongalia Co., near Morgantown (*Millspaugh*).

I. sinuosus Fr.
On dead sticks, Dec. 10, 1893 (*Nuttall*, 1309, 255).

I. obliquus (Schrad.) Fr.?
On *Magnolia Fraseri*, Feb. 8, 1894 (*Nuttall*, 1385, 347).

RADULUM Fr.

R. orbiculare Fr.
On *Carpinus Caroliniana?* Nov. 27, 1893 (*Nuttall*, 1270).

R. Magnoliæ B. & C.
On *Magnolia Fraseri*, Feb. 9, 1894, Short Creek, alt. 1,800 ft. (*Nuttall*, 1352).

PHLEBIA Fr.

P. merismoides Fr.
On mossy bark of dead log, Dec. 1, 1893 (*Nuttall*, 1289). On *Magnolia Fraseri*, Nov. 1895.

P. radiata Fr.
On *Alnus rugosa*, Oct. 31, 1893 (*Nuttall*, 1219).

GRANDINIA Fr.

G. granulosa Fr.
On underside dead log, May 20, 1893 (*Nuttall*, 1304).

G. crustosa (Pers.) Fr.
On *Rhododendron maximum*, May 20, 1893. On *Liquidambar Styraciflua*, Oct. 2, 1894 (*Nuttall*, 909 ident. Massee).

ODONTIA Pers.

O. farinacea Fr.
Underside dead *Tsuga Canadensis*, Nov. 9, 1893, Short Creek, alt. 1,300 ft. (*Nuttall*, 1245).

KNEIFFIA Fr.*

K. setigèra Fr.
In interstices dead log, Dec., 1893 (*Nuttall*, 1290, 231).

THELEPHORACEÆ.

THELEPHORA Ehrh.

T. sebacea Pers.
On stem of *Aster* sp., damp shady woods, July 25, 1893 (*Nuttall*, 1120).

T. pedicellata Schwein.
On *Ostrya Virginiana*, Feb. 8, 1894 (*Nuttall*, 1370, 328).

STEREUM Pers.

S. versicolor (Sw.) Fr.
On *Quercus* sp. and *Betula lenta*, March 7, 1893 (*Nuttall*, 856).

S. fasciatum Sz.
In dead stumps, alt. 2,000 ft., March 8, 1893 (*Nuttall*, 860).

S. VERSICOLOR *var.* (Peck).
On dry oak railroad ties, Monongalia Co., near Morgantown (*Millspaugh*).

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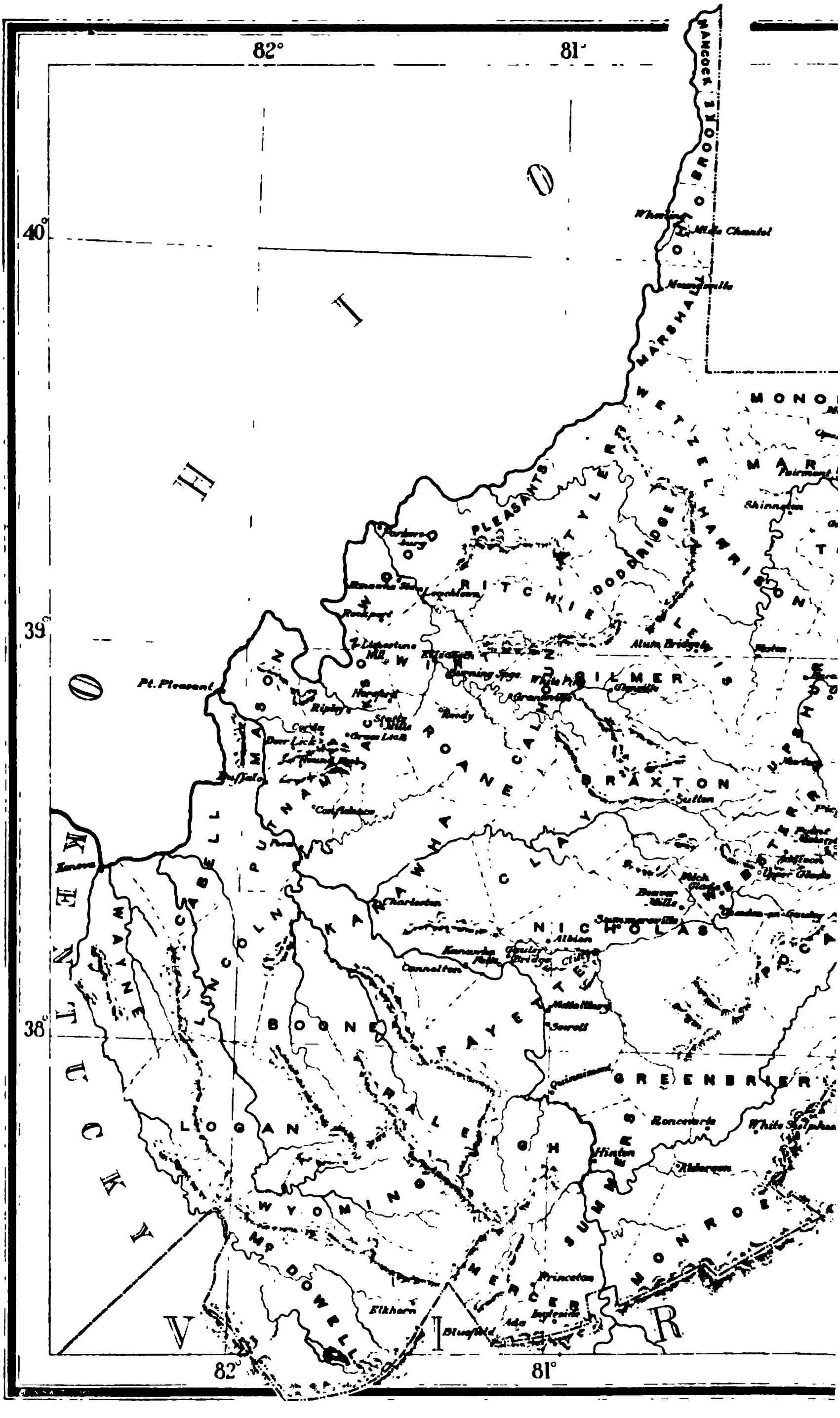
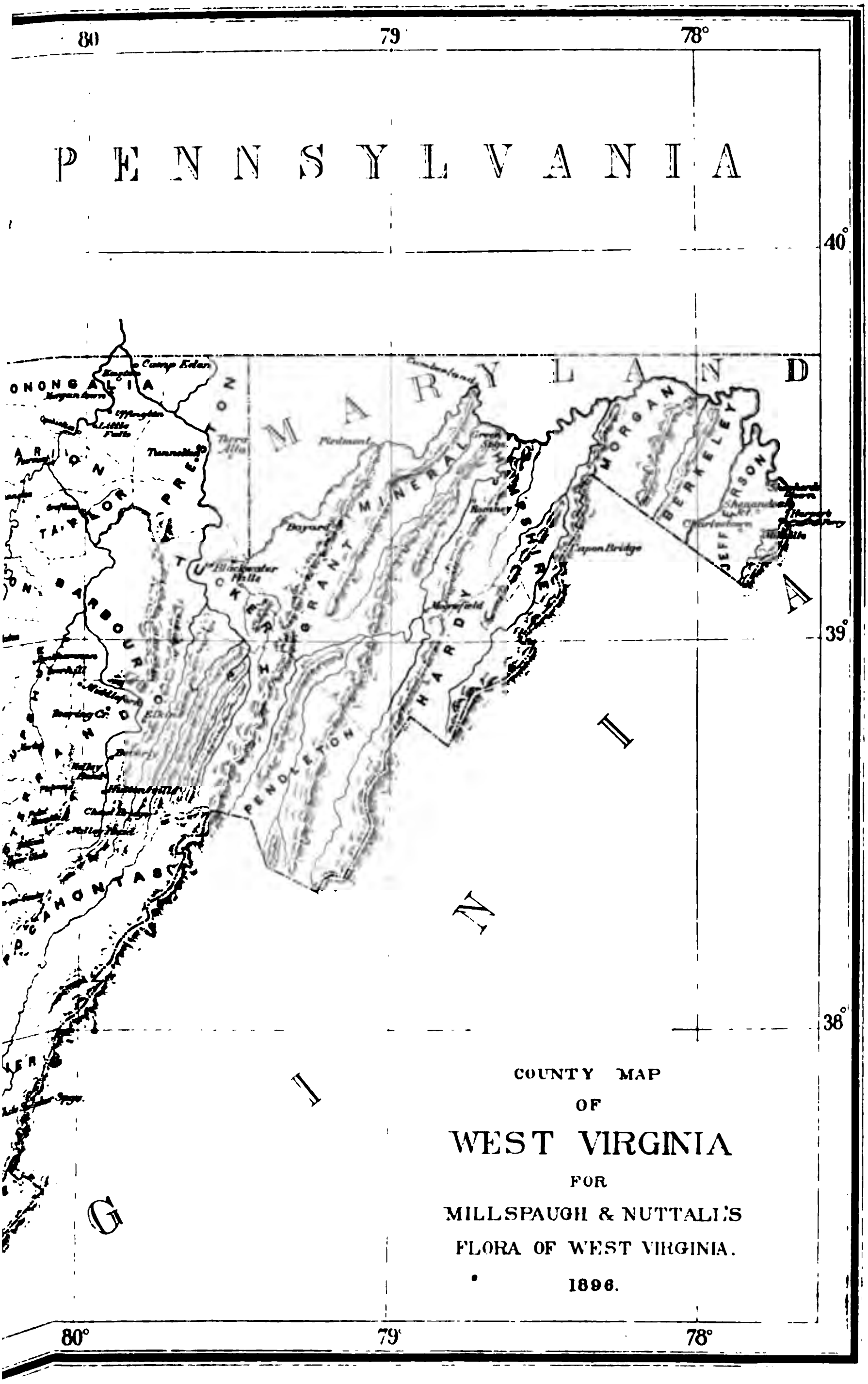
* A section of the genus Œnothera has been elevated to generic rank by Raimann, in Engler & Prantl's *Natur. Pflanzenf.*, and Spach's *Kneiffia* (1835) re-instated to designate it. Fries' genus Kneiffia (1836) has, however, been so long established in mycologic literature, that we are loth to make any change at this time, feeling that the re-instating of Spach's Kneiffia is hardly proper, with Fries' genus well established.


82°
81°
40°
39°
38°
82°
81°
O H I O
K E N T U C K Y
V I R
HANCOCK
BROOKE
OHIO
Wheeling
Mt. de Chantal
Moundsville
MARSHALL
WETZEL
MONO
MAR
Fairmont
Shinnston
T
HARRISON
TYLER
PLEASANTS
DODDRIDGE
Parkersburg
RITCHIE
Leachtown
Rockport
WOOD
WIRT
Elizabeth
Burning Spgs.
White Pine
Grantsville
GILMER
Glenville
LEWIS
Alum Bridge
Pt. Pleasant
MASON
JACKSON
Ripley
Hereford
Reedy
Deer Lick
Green Lick
Buffalo
PUTNAM
ROANE
CALHOUN
BRAXTON
Sutton
Confidence
Poca
CABELL
KANAWHA
CLAY
Kenova
WAYNE
LINCOLN
Charleston
NICHOLAS
Summersville
Beaver Mills
Birch Glade
Albion
Kanawha Falls
Gauley Bridge
Cannelton
FAYETTE
Sewell
BOONE
Quinnimont
GREENBRIER
Ronceverte
White Sulphur
LOGAN
RALEIGH
Hinton
SUMMERS
Alderson
WYOMING
MONROE
McDOWELL
MERCER
Princeton
Elkhorn
Ingleside
Ada
Bluefield


80
79
78°
PENNSYLVANIA
40°
MARYLAND
Camp Eden
Morgantown
Uffington
Little Falls
Tunnelton
Terra Alta
Piedmont
Cumberland
Green Spring
Romney
Bayard
Blackwater Falls
Moorefield
Capon Bridge
Shenandoah Jct.
Charlestown
Harpers Ferry
MONONGALIA
MARION
TAYLOR
PRESTON
BARBOUR
TUCKER
GRANT
MINERAL
HAMPSHIRE
HARDY
PENDLETON
RANDOLPH
POCAHONTAS
MORGAN
BERKELEY
JEFFERSON
Elkins
Beverly
Roaring Cr.
39°
38°
VIRGINIA
COUNTY MAP
OF
WEST VIRGINIA
FOR
MILLSPAUGH & NUTTALL'S
FLORA OF WEST VIRGINIA.
1896.
80°
79°
78°

S. purpureum Pers.
On stump in pine woods (*Liriodendron?*) Dec. 9, 1893 (*Nuttall*, 1281, 391).

S. hirsutum (W.) Fr.
On log, Nov. 24, 1893. Short Creek, alt. 1,300 ft. (*Nuttall*, 1277, 224).

S. sanguinolentum (A. & S.) Fr.
On *Tsuga Canadensis*, Feb. 8, 1894 (*Nuttall*, 1386, 251).

S. SULPHURATUM B. & Rav.
On log *Quercus alba*, Monongalia Co., near Morgantown (*Millspaugh*).

S. FRUSTULOSUM (Pers.) Fr.
On log *Quercus* sp., Monongalia Co., near Morgantown (*Millspaugh*). On dead wood, March 7, 1893 (*Nuttall*, 857).

S. Pini Fr.
On *Pinus Virginiana*, April 6, 1894 (*Nuttall*, 1469, 445).

S. ochraceo-flavum Schw.
On small dead twigs, March 21, 1894 (*Nuttall*, 1416).

S. albo-badium Schwein.
On dead sticks and twigs of various trees, April 27, 1893 (*Nuttall*, 1269).

S. SERICEUM Schw.
On dead twig *Betula lenta*, Grant Co., near Bayard (*Millspaugh*). On *Rhus copallina*, March 6, 1894 (*Nuttall*, 1419, 389).

S. COMPLICATUM Fr.
On roots of overturned *Betula lenta*, Grant Co., near Bayard; on dry oak railroad ties, Monongalia Co., near Morgantown (*Millspaugh*). On dead trees and on *Quercus Prinus*, Dec. 8, 1893 (*Nuttall*, 867, 235).

S. versiforme B. & C.?
On *Castanea dentata*, Jan. 18, 1893 (*Nuttall*, 1347, 305).

S. triste B. & C.
On *Rhododendron maximum* in thicket, alt. 1,800 ft. Feb. 8, 1894 (*Nuttall*, 966, 350).

S. acerinum Pers.
On living tree trunks, March 7, 1893 (*Nuttall*, 858).

HYMENOCHÆTE Lev.

H. rubiginosa (Schr.) Lev.
On dead log, March, 1893 (*Nuttall*, 911).

H. tabacina (Sow.) Lev.
On dead twigs, March 1893 (*Nuttall*, 910).

H. CORRUGATA (Fr.) Lev.
On decorticated limb *Betula lenta*, Grant Co., near Bayard (*Millspaugh*). On *Magnolia Fraseri*, Feb. 8, 1894. Setæ 38 x 7.5 μ (*Nuttall*, 1364).

H. unicolor B. & C.?
On *Betula lenta*, on dead *Kalmia latifolia?* July 1, 1893 (*Nuttall*, 1111, 96).

CORTICIUM Fr.

C. salicinum Fr.
On dead *Salix nigra*, March 15, 1894 (*Nuttall*, 1401).

C. Oakesii B. & C.
On living *Ostrya Virginica*, March 21, 1893 (*Nuttall*, 877).

C. globiferum E. & E.
Underside of dead log in deep laurel thicket, Short Creek, March 25, 1893 (*Nuttall*, 940).

C. arachnoideum Berk.
On dead damp twigs in dense pile, Jan. 18, 1894. Diffused for 30 x 8 cm. Spores 4 to 5 x 2 to 3 μ. The species when fresh has a wrinkled or crusted appearance looking very like a *Merulius*, but soon becomes flat and plane (*Nuttall*, 1344, 303).

C. radiosum Fr.
On dead trunk, partly beneath loose bark, Short Creek, May 18, 1893 (*Nuttall*, 965).

C. leve Pers.
On *Hamamelis Virginica*, Dec. 20, 1894 (*Nuttall*, 1500).

C. albo-flavescens E. & E., sp. nov.
TYPE HABITAT: On bark of dead *Tsuga Canadensis*, Feb. 24, 1894 (*Nuttall*, discov. 1394).

At first orbicular, subpezizoid, 1 to 2 mm. diameter, becoming more irregular in shape and 1 cm. or more diameter, lower stratum milk-white, consisting of loosely interwoven, branching threads, and extending out beyond the pale-olivaceous or yellowish, membranaceous hymenium so as to form a thin subfimbriate, white margin. Spores abundant, globose, with a single large nucleus, 4 to 6 μ diameter, slightly colored.

The hymenium has only a slight tinge of olive and is perhaps better described as light-drab color.

C. leptaleum E. & E., sp. nov.
TYPE HABITAT: On under side dead sapling *Magnolia Fraseri*, alt. 1,800 ft. April 11, 1895 (*Nuttall*, discov. 1803, 690).

Thin, closely adnate, grayish-white, pulverulent, soon cracking into areas 2 to 3 mm across, with margins incurved so as to resemble the shallow cups of some *Peziza*. Spores oblong, hyaline, continuous, 10 to 12 x 4 μ, borne on cylindrical basidia 30 to 40 x 6 μ, with two stout sporophores. There are also other smaller (immature)? sporidia, globose (4 to 6 μ) or elliptical, 5 to 7 x 3 to 3.5 μ. The membrane on which the hymenium stands where exposed on the incurved margin of the pezizoid areas is pale brown.

C. Petersii B. & C.
On *Betula* sp. and *Vitis* sp., March 21, 1893 (*Nuttall*, 912).

C. colliculosum B. & C.
On dead logs in laurel thicket, Short Creek, May 1893 (*Nuttall*, 1088).

C. prasinum B. & C.
On dead burned log, Feb. 2, 1894 (*Nuttall*, 1382, 344).

C. lilacino-fuscum B. & C.
On dead limb *Hicoria* sp., Short Creek, alt. 1,800 ft., March 5, 1894 (*Nuttall*, 1403).

C. ochraceum Fr.
On underside dead log *Tsuga Canadensis*, May 8, 1893 (*Nuttall*, 931).

C. incarnatum (Pers.) Fr.
On underside dead log and on *Ulmus pubescens*, April 18, 1893 (*Nuttall*, 923).

C. lilacinum Schroet.
On firm wood of dead log, March 6, 1894, Short Creek, alt. 1,800 ft. (*Nuttall*, 1427, 399).

C. subgiganteum Berk.
On *Hicoria ovata*, Dec. 14, 1893. Spores 16 x 5 μ (*Nuttall*, 1312, 262).

C. martianum B. & C.
On underside of wet log, Dec. 16, 1893. When fresh this species is the color of fresh blood. Short Creek, alt. 1,800 ft. (*Nuttall*, 1324, 281).

C. scutellare B. & C.
On *Magnolia Fraseri*, *Sambucus Canadensis* and *Pinus Virginiana*, Aug. 18, 1893 (*Nuttall*, 1176, 144).

ASTEROSTOMA Massee.

A. corticolum Massee.
On wild vine *Vitis* sp., in pine woods, alt. 2,000 ft., Feb. 1893 (*Nuttall*, 1000).

A. cervicolor (B. & C.) Massee.
On bark of living *Quercus* sp., Short Creek, alt. 1,800 ft. (*Nuttall*, 1325, 282).

PENIOPHORA Cooke.

P. quercina (Fr.) Cooke.
On *Castanea dentata*, Jan. 18, 1893 (*Nuttall*, 1346, 305).

P. cinerea (Fr.) Cooke.
On dead limb, March 1893 (*Nuttall*, 945, 170).

CONIOPHORA DC.

C. ———————— sp.
Near *C. submembranacea* (B. & Br.). On *Zea Mays*, Aug. 10, 1895 (*Nuttall*, 1846, 737).

C. olivacea (Fr.) Karst.
In dark place underside old railroad ties, Nov. 5, 1894 (*Nuttall*, 1750, 631).

EXOBASIDIUM Woron.

E. RHODODENDRI Cram.
Forming "cups" near the tips or margins of living leaves of *Rhododendron maximum*. Common in Grant and Tucker Counties. I understand from Prof. Peck that this is his first knowledge of the occurring of this species in North America (*Millspaugh*).

CLAVARIACEÆ.

CLAVARIA Vaill.

C. amethistina Bull.
On ground, June 20, 1893 (*Nuttall*, 993).

C. pyxidata Pers.
On rotten log, June 10, 1893 (*Nuttall*, 975).

C. formosa Pers.
On ground in laurel thicket, and deep woods, alt. 2,000 ft., July 9, 1893. Spores 12.5 x 5 μ (*Nuttall*, 1085).

C. FLACCIDA Fr.
On leaf mold, in deep woods, Grant Co., near Bayard (*Millspaugh*).

C. fusiformis Sowerb.
On low ground in open woods, alt. 2,000 ft., July 9, 1893 (*Nuttall*, 1086).

C. juncea Fr.
On leaf mold in bottom of dead hollow stump. Oct. 28, 1893 (*Nuttall*, 1232, 179).

C. mucida Pers.
On upper side dead wet logs, Oct. 20, 1893 (*Nuttall*, 1231, 178).

CALOCERA Fr.

C. viscosa (Pers.) Fr.
On bark of *Magnolia Fraseri*, Short Creek, alt. 1,800 ft., Feb. 8, 1894. Spores 12.5 x 4 μ (*Nuttall*, 1387, 354).

LACHNOCLADIUM Lev.

L. semivestitum B. & C.
On dead wet limbs, alt. 1,800 ft., Sept. 18, 1895. Three to five inches high (*Nuttall*, 1867, 753).

TREMELLINACEÆ.

HIRNEOLA Fr.

H. Auricula-Judæ (Linn.) Berk.
On damp sticks, June 15, 1893, Short Creek (*Nuttall*, 993).

EXIDIA Fr.

E. glandulosa (Bull) Fr.
On bark *Juglans cinerea*, alt. 2,000 ft., Feb. 20, 1893 (*Nuttall*, 946).

E. alba (Huds.) Bref.
On dead log, June 23, 1893 (*Nuttall*, 999).

ULOCOLLA Bref.

U. foliacea (Pers.) Bref.
On dead twig, Nov. 10, 1893. Spores + 12.5 x 6 to 7 μ (*Nuttall*, 1281).

TREMELLA Dill.

T. frondosa Fr.
On *Rhododendron maximum*, Dec. 16, 1893 (*Nuttall*, 1321).

T. aurantia Fr.
On bark *Pinus Virginiana*, alt. 2,000 ft., March 20, 1893 (*Nuttall*, 947).

T. intumescens Sm.?
On dead limbs *Hicoria* sp., Short Creek, Dec. 16, 1893. Spores 10 to 13 x 3 to 4 μ, curved (*Nuttall*, 1332).

T. virens Schwein.
On dead branch *Cornus florida*, Aug. 17, 1893 (*Nuttall*, 1155). Spores mostly 7 x 5 μ or round 7 μ diameter.

NÆMATELIA Fr.

N. nucleata (Schw.) Fr.
On *Aralia spinosa*, alt. 1,300 ft., Aug. 18, 1893 (*Nuttall*, 1174, 142). On *Magnolia Fraseri*.

DACRYOMYCES Nees.

D. ———— sp.
Of this form Mr. J. B. Ellis says: "It seems to be a Dacryomyces. I find the same thing here at Newfield, N. J., but have never been able to decide upon it, and though I have sent it to

various European mycologists, I have never received a definite opinion from them." The form occurs on oak limbs on ground, Dec. 1893; is of a bright orange-red color, with curved spores 7.5 to 10 x 4 μ (*Nuttall*, 1271, 217).

D. **deliquescens** (Bull.) Dub.
On underside dead rotten limb *Pinus Strobus*, Dec. 13, 1894 (*Nuttall*, 1770).

D. **Syringæ** (Schum.)?
On dead limbs of *Platanus occidentalis*, Nov. 10, 1895 (*Nuttall*, 1889).

D. **stellatus** Nees.
On clean dead wood *Tsuga Canadensis*, Dec. 20, 1893 (*Nuttall*, 1331).

D. **corticioides** Ell.
On decayed *Tsuga Canadensis*, Short Creek, alt. 1,750 ft., Dec. 16, 1893. Lemon yellow .25 cm. to 3.5 x 1.5 cm. Spores hyaline, nucleate 9 to 12.5 x 5 to 7 μ obliquely apiculate at one end (*Nuttall*, 1316, 271).

D. **minor** Peck?
On *Kalmia latifolia*, Short Creek, alt 1,800 ft., March, 1894. Spores 10 to 12 x 4 μ (*Nuttall*, 1532).

GUEPINIA Fr.

G. **spathularia** (Schw.) Fr.
On *Quercus* sp., Jan. 1, 1894. Spores uniseptate 10 x 4 μ (*Nuttall*, 1782).

HORMOMYCES Bon.

H. FRAGIFORMIS Cooke.
On bark dead *Fagus atropunicea*, Grant Co., near Bayard (*Millspaugh*). On dead wood, May 18, 1893 (*Nuttall*, 963). *Hypsilophora fragiformis* (Fr.) Lev.

Lichenes.

USNACEÆ.

RAMALINA Ach.

R. rigida (Pers.) Tuck.
On trees, alt. 2,000 ft. (*Nuttall*, 1060).

R. calcicaris fastigiata Fr.
On trees, alt. 2,000 ft. (*Nuttall*, 869).

R. miniuscula Nyl.
On *Acer saccharinum*, alt. 2,000 ft. (*Nuttall*, 1696).

CETRARIA Ach.

C. ciliaris (Ach.) Tuck.
On *Pinus Virginiana*, alt. 1,800 ft. (*Nuttall*, 861).

C. lacunosa Ach.
On *Pinus Virginiana*, alt. 1,800 ft. (*Nuttall*, 1053).

C. aurescens Tuck.
On *Rhododendron maximum*, alt. 1,850 ft. (*Nuttall*, 1050).

USNEA Ach.

U. BARBATA (L.) Fr.
Wirt Co., on old trees, common, Burning Springs. Randolph Co., on *Rhododendron maximum*, common, Cheat Bridge. Mercer Co., on oak twigs, Bluefield; and elsewhere about State, common on trees, rocks and old fence rails (*Millspaugh*). On trees, alt. 2,000 ft. (*Nuttall*, 819).

U. BARBATA FLORIDA Fr.
Mercer Co., on oak chips and twigs among dead leaves at Bluefield (*Millspaugh*). On trees, alt. 2,000 ft. (*Nuttall*, 859).

THELOSCHISTES Norm.

T. parietinus (Linn.) Norm.
On *Robinia Pseudacacia*, alt. 2,000 ft. (*Nuttall*, 1145).

T. concolor (Dicks.) Tuck
On *Robinia Pseudacacia*, alt. 2,000 ft. (*Nuttall*, 1144).

PARMELIEÆ.

PARMELIA Ach.

P. perlata (Linn.) Ach.
On *Acer rubrum*, and on sandstone boulders (*Nuttall*, 848).

P. Borreri Turn.
On oak, alt. 1,850 ft. (*Nuttall*, 1032).

P. BORRERI RUDECTA Tuck.
On *Robinia Pseudacacia*, Monongalia Co., along Falling Run (*Millspaugh*, 1531).

P. colpodes (Ach.) Nyl.
On oak, alt. 1,850 ft. (*Nuttall*, 1141).

P. OLIVACEA (L.) Ach.
On *Liriodendron* log newly felled, Monongalia Co., Falling Run (*Millspaugh*, 1343).

P. CAPERATA (L.) Ach.
Monongalia Co., on sandstone rocks, and base of beech, Falling Run (*Millspaugh*, 1283).

PHYSCIA DC.

P. LUCOMELA (L.) Michx.
Mercer Co., with moss on wet limestone ledge, Beaver Spring (*Millspaugh*, 1539).

P. ciliaris (Linn.) DC.
On mossy sandstone rocks (*Nuttall*, 1063).

P. ciliaris crinalis Schær.
On moss, alt. 1,850 ft. (*Nuttall*, 1042).

P. aquila (Ach.) Nyl.
On rocks and on moss (*Nuttall*, 1035).

P. stellaris (Linn.) Tuck.
On sandstone rock (*Nuttall*, 872).

P. stellaris aipolia Nyl.
On sandstone rock (*Nuttall*, 1778).

UMBILICARIÆ.

UMBILICARIA, Hoffm.

U. Dillenii Tuck.
On sandstone rocks (*Nuttall*, 823).

U. Pennsylvanica Hoffm.
On sandstone rocks (*Nuttall*, 849).

U. pustulata (Linn.) Hoffm.
On faces of sandstone cliffs (*Nuttall*, 855).

PELTIGERIEÆ.

STICTA Schreb.

S. HERBACEA (Huds.) Ach.
McDowell Co., on oaks, Elkorn (*Millspaugh*).

S. erosa (Eschw.) Tuck.
On trees, alt. 1,850 ft. (*Nuttall*, 982).

S. PULMONARIA (L.) Ach.
Wirt Co., on trunks of oaks, near Burning Springs (*Millspaugh*, 327). On trees, alt. 1,875 ft. (*Nuttall*, 824).

S. quercizans (Michx.) Ach.
On trees and rocks (*Nuttall*, 1057).

PELTIGERA Willd.

P. APHTHOSA (K.) Hoffm.
Monongalia Co., on rock ledge, near Cassville (*Millspaugh*). On rocks among mosses, alt. 1,800 ft. (*Nuttall*, 1090).

P. ———————— sp. *non fruct.*
On *Rhododendron maximum* (*Nuttall*, 938).

P. horizontalis (Linn.) Hoffm.
On rocks among mosses, alt. 1,875 ft. (*Nuttall*, 1091).

P. canina (Linn.) Hoffm.
On earth, rocks and trees (*Nuttall*, 1061).

PANNARIEÆ.

PANNARIA Delis.

P. rubiginosa (Thunb.) Delis.
On mossy logs (*Nuttall*, 1055).

P. leucosticta Tuck.
On mossy logs and rocks (*Nuttall*, 1064).

P. nigra (Huds.) Nyl.
On sandstone rocks (*Nuttall*, 1077).

COLLEMEÆ.

COLLEMA Hoffm.

C. myochroum Nyl.
On *Rhododendron maximum*, alt. 1,875 ft. (*Nuttall*, 1058).

LEPTOGIUM Fr.

L. pulchellum (Ach.) Nyl.
On oak (*Nuttall*, 1067).

L. tremelloides (Linn. f.) Fr.
On sandstone rock (*Nuttall*, 1093).

L. chloromelum stellans Tuck.
On *Quercus coccinea*, alt. 2,400 ft. (*Nuttall*, 1146).

LECANOREÆ.

PLACODIUM DC.

P. elegans (Link.) DC.
On sandstone boulders at base of cliffs, alt. 1,800 ft. (*Nuttall*, 862).

P. CERINUM (Hedw.) Naeg. & Hepp.
Monongalia Co., on bark of beech, Falling Run (*Millspaugh*, 1357). On *Robinia Pseudacacia*, alt. 2,000 ft. (*Nuttall*, 1030).

P. ferrugineum (Huds.) Hepp.
On top of wet sandstone rock (*Nuttall*, 1092).

P. camptidium, Tuck.
On trees (*Nuttall*, 1786).

LECANORA, Ach.

L. coarctata Ach.
On pieces of sandstone under drip of wet cliff, alt. 1,800 ft. (*Nuttall*, 1780).

L. subfusca (Linn.) Ach.
On trees and rocks (*Nuttall*, 1038).

L. ATRA (Huds.) Ach.
Monongalia Co., on bark *Liriodendron* log, newly felled, Falling Run (*Millspaugh*, 1342). On flat exposed surface sandstone rock, same locality (1287).

L. deplanans Nyl.
On rocks in bed of creek, alt. 1,300 ft., Fayette Co. in Short Creek (*Nuttall*, 1126).

L. varia (Ehrh.) Nyl.
On trees (*Nuttall*, 1036).

L. pallescens (Linn.) Schær.
On trees and rails (*Nuttall*, 937).

L. tartarea (Linn.) Ach.
On sandstone rocks (*Nuttall*, 886).

L. cervina (Pers.) Nyl.
The light colored form on wet rocks; the dark form on dry rocks (*Nuttall*, 854).

L. privigna (Ach.) Nyl.
On sandstone rocks (*Nuttall*, 1828).

RINODINA Mass.

R. oreina (Ach.) Mass.
On sandstone rocks at base of cliff, alt. 1,800 ft. (*Nuttall*, 952).

R. sophodes (Ach.) Nyl.
On small sandstone rocks (*Nuttall*, 1072).

PERTUSARIA DC.

P. velata (Turn.) Nyl.
On *Magnolia Fraseri* and other trees (*Nuttall*, 1044).

P. multipuncta (Turn.) Nyl.
On sandstone rocks in bed of creek (*Nuttall*, 1043).

P. leioplaca (Ach.) Schær.
On oak (*Nuttall*, 1041).

P. pustulata (Ach.) Nyl.
On trees (*Nuttall*, 853).

THELOTREMA Ach.

T. subtile Tuck.
On trees (*Nuttall*, 1056).

MYRIANGIUM Mont. & Berk.

M. Duriæi (Mont. & Berk.) Tuck.
On dead bush (*Nuttall*, 1062).

CLADONIEÆ.

CLADONIA Hoffm.

C. MITRULA Tuck.
Monongalia Co., on an old beech log, Falling Run (*Millspaugh*, 1346).

C. cariosa (Ach.) Spreng.
On earth, Fayette Co. (*Nuttall*, 1066).

C. PYXIDATA (L.) Fr.
Monongalia Co., along Falling Run, on bare sandstone rocks (*Millspaugh*, 1281); on moss in clay soil (*Millspaugh*, 1285); on decayed log (*Millspaugh*, 1338); base of beech in soil (*Millspaugh*, 1282); on earth (*Nuttall*, 1031).

C. fimbriata (Linn.) Fr.
On an old log, Fayette Co. (*Nuttall*, 1059).

C. fimbriata tubæformis Fr.
On an old log (*Nuttall*, 1059).

C. GRACILIS (L.) Nyl.
Monongalia Co., along Falling Run, on decayed log (*Millspaugh*, 1337); among mosses on clay soil (*Millspaugh*, 1286).

C. gracilis verticillata Fr.
On earth (*Nuttall*, 885).

C. sobolescens Nyl.
On earth (*Nuttall*, 839).

C. papillaria (Ehrh.) Hoffm.
On earth (*Nuttall*, 1068).

C. delicata (Ehrh.) Fl.
On top of stump (*Nuttall*, 1065).

C. cæspiticia (Pers.) Fl.
On sandstone rocks (*Nuttall*, 1075).

C. FURCATA RACEMOSA Floerk.
Monongalia Co., large patches on ground under chestnuts, at Dille's; Mercer Co., same growth under oaks, near Beaver Spring (*Millspaugh*) on earth (*Nuttall*, 1045).

C. RANGIFERINA (L.) Hoffm.
Monongalia Co., on moss, Falling Run (*Millspaugh*, 1361); on earth, rocks and rails (*Nuttall*, 825).

C. macillenta (Ehrh.) Hoffm.
On rotten logs (*Nuttall*, 1070).

C. pulchella Schwein.
On dead wood (*Nuttall*, 838).

C. CRISTATELLA Tuck.
Monongalia Co., on an old decayed log, Falling Run (*Millspaugh*, 1336).

LECIDEÆ.

BÆOMYCES Pers.

B. roseus Pers.
On ground (*Nuttall*, 873).

BIATORA Fr.

B. russula (Ach.) Mont.
On bark of tree (*Nuttall*, 1046).

B. varians (Ach.) Tuck.
On bark of tree (*Nuttall*, 978).

B. ulignosa (Schrad.) Fr.
On rotten stumps (*Nuttall*, 1054).

B. fuliginosa Ach.
On ground (*Nuttall*, 1089).

B. Schweinitzii Tuck.
On *Rhododendron maximum* (*Nuttall*, 1052).

B. rubella (Ehrh.) Rab.
On mossy trunk of tree (*Nuttall*, 1029).

B. inundata Fr.
On sandstone rock (*Nuttall*, 1074).

B. suffusa Fr.
On bark of tree (*Nuttall*, 1095).

LECIDEA Ach.

L. Tennesseensis Nyl.
On sandstone rock (*Nuttall*, 1073).

L. fuliginea Ach.
On upper side of dead log (*Nuttall*, 1787).

L. Nuttallii Calkins. mss.
Parasitic on *Sticta erosa* (*Nuttall*, 1781).

L. Virginiensis Calkins. mss.
On sandstone rock under drip of wet cliff (*Nuttall*, 1779).

L. ericina Nyl.
Bark of trees (*Nuttall*, 1047).

BUELLIA DeNot.

B. myriocarpa (DC.) Mudd.
On bark of trees (*Nuttall*, 1185).

B. petræa (Fl.) Tuck.
On sandstone rocks (*Nuttall*, 1071).

GRAPHIDACEÆ.

OPEGRAPHA Humb.

O. varia (Pers.) Fr.
Bark of trees (*Nuttall*, 1034).

O. atra Pers.
Bark of trees (*Nuttall*, 1033).

GRAPHIS Ach.

G. scripta (Linn.) Ach.
On bark of trees (*Nuttall*, 1051).

G. scripta recta Schær.
On bark of *Betula lutea* and of *B. lenta* (*Nuttall*, 1026).

G. elegans (Sm.) Ach.
On bark of trees, Fayette Co. (*Nuttall*, 1039).

G. dendritica Ach.
On bark of *Betula lenta*, etc. (*Nuttall*, 1037).

ARTHONIA Ach.

A. cinnabarina Wallr.
Bark of tree (*Nuttall*, 939).

A. aleuromela Nyl. mss.
On bark of oak, alt. 2,000 ft. (*Nuttall,* discov. 1182).

A. dispersa (Schrad.) Nyl.
On bark of young *Tsuga Canadensis,* etc. (*Nuttall,* 1142).

A. astroidea Ach.
On bark of *Liriodendron Tulipifera* (*Nuttall,* 1816).

A. punctiformis Ach.
On bark (*Nuttall,* 1076).

A. tædiosa (Nyl.) Fr.
On bark (*Nuttall,* 1069).

A. spectabilis Fl.
On bark (*Nuttall,* 1025).

AGYRIUM Fr.

A. rufum (Pers.) Fr.
On smooth dead wood (*Nuttall,* 1814).

CALICIACEÆ.

CALICIUM Pers.

C. subtile Fr.
On sticks, dead leaves, etc., under cliff (*Nuttall,* 1226).

VERRUCARIACEÆ.

ENDOCARPON Hedw.

E. miniatum (Linn.) Schær.
On wet cliffs (*Nuttall,* 1049).

E. miniatum complicatum Schær.
On wet cliffs (*Nuttall,* 1823).

TRYPETHELIUM Spreng.

T. virens Tuck.
On *Ilex opaca* (*Nuttall,* 1040).

T. exocanthum Tuck.
On *Fagus atropunicea* (*Nuttall,* 1181).

PYRENULA Ach.

P. rhyponta Ach.
On bark of *Hamamelis Virginica* (*Nuttall,* 1184).

P. nitida Ach.
On *Betula lenta* bark (*Nuttall,* 1027).

P. pachycheila Tuck.
On bark of *Fagus atropunicea* (*Nuttall,* 1048).

Hepaticae.

JUNGERMANNIACEÆ.

FRULLANIA ASA-GRAYANA Mont.

Frullania plana Sull.
(Nuttall).

JUBULA HUTCHINSIÆ SULLIVANTII Spruce.

ARCHILEJUNEA Spruce.

A. CALYPEATA (Schw.) Spruce.
Lejunea calypeata Schw. (*Nuttall*).

RADULA XALAPENSIS Mont.

RADULA TENAX Lindb.

BELLINCINIA Raddi.

B. PLATYPHYLLA (L.) O.K.
Porella platyphylla Lindb.

B. PORELLA (Dicks.) O. K.
Porella pinnata Schw.

TRICHOCOLEA TOMENTELLA (Ehrh.) Dumort.

HERBERTIA ADUNCA (Dicks.) S. F. Gray.

BAZZANIA TRILOBATA (L.) S. F. Gray.

BAZZANIA DEFLEXA (Mart.) Underw.

Cephalozia media Lindb.
Cephalozia multiflora Spruce (*Nuttall*).

CEPHALOZIA CURVIFOLIA (Dicks.) Dumort.
(*Nuttall*).

ODONTOCHISMA SPHAGNI (Dicks.) Dumort.
(*Nuttall*).

BLEPHAROSTOMA TRICHOPHYLLUM (L.) Dumort.

KANTIA TRICHOMANIS (L.) S. F. Gray.

GEOCALYX GRAVEOLENS (Schrad.) Nees.

Scapania undulata (L.) Dumort.
Randolph Co., at Pickens, on clay at the banks of a spring (*Millspaugh*).

SCAPANIA NEMOROSA (L.) Dumort.

DIPLOPHYLLUM TAXIFOLIUM (Wahlenb.) Dumort.

PLAGIOCHILA VIRGINICA, A. W. Evans, Fl. W. Va., 497 (1892) Plate.

Growing in wide, depressed, and intricate tufts; stems ascending from a prostrate caudex, simple or sparingly branched, sometimes geniculate and rooting at the joints, otherwise eradiculose; leaves contiguous or somewhat imbricated, widely patent, ovate or rhomboid-ovate, the dorsal margin decurrent, slightly reflexed, entire, the ventral margin plane or reflexed at base, mostly entire, the apex broad, rounded or truncate, sharply and irregularly spinulose; amphigastria none.

Stems 1 to 3 cm. long, with the leaves 1 to 2 mm. wide; leaves 1.2 mm. long, 0.7 mm. wide; spines short, acute, separated by rounded sinuses, varying in number from 2 to 8 on each leaf, usually 4 or 5; leaf-cells averaging 0.023 mm. in diameter in middle of leaf, thin-walled and scarcely thickened at the angles.

Mercer: on walls of dry limestone cave, Beaver Spring (1550).

PLAGIOCHILA PORELLOIDES Lindenb.

HARPANTHUS SCUTATUS (Web. & Mohr.) Spruce.

JUNGERMANNIA EXSECTA Schmid.

MARSUPELLA Dumort.

M. emarginata (Ehrh.) Dumort.

Randolph Co., at Pickens, on clay bank of a small spring. (*Millspaugh*)

PELLIA EPIPHYLLA (L.) Dumort.

METZGERIA CONJUGATA Lindb.

(*Nuttall*).

ANEURA MULTIFIDA (L.) Dumort.

Aneura sessilis Spreng.

(*Nuttall*).

MARCHANTIACEÆ.

MARCHANTIA POLYMORPHA Linn (*Nuttall*).

CONOCYPHALUM CONICUM (L.) Dumort.

Musci.

POLYTRICHACEÆ.

POLYTRICHUM COMMUNE Linn.
POLYTRICHUM OHIŒNSE Ren. & Card.
POLYTRICHUM PILIFERUM Schreb.
POLYTRICHUM TENUE (Menz.) E. G. Britton.

DIPHYSCIUM, Mohr.

D. foliosum Mohr (*Nuttall*).

BUXBAUMIA Haller

B. aphylla Linn (*Nuttall*).
CATHARINEA ANGUSTATA Brid.
CATHARINEA UNDULATA Web. & Mohr.

GEORGIACÆ.

GEORGIA PELLUCIDA (L.) Rabenh.

FISSIDENTACEÆ.

FISSIDENS ADIANTOIDES (L.) Hedw.
FISSIDENS DECIPIENS De Not.

MNIACEÆ.

ASTROPHYLLUM SYLVATICUM Lindb.
ASTROPHYLLUM ROSTRATUM Schrad.
ASTROPHYLLUM PUNCTATUM (L.) Lindb.
ASTROPHYLLUM HORNUM (L.) Lindb.
SPHÆROCEPHALUS HETEROSTICHUS (Brid.) E. G. Britton.

BARTRAMIACEÆ.

BARTRAMIA POMIFORMIS (L.) Hedw.
On ground, Greenbrier Co., Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

BARTRAMIA POMIFORMIS CRISPA (Sw.) Schimp.
BARTRAMIA FONTANA (L.) Brid.

BRYACEÆ.

BRYUM BIMUM Schreb.
BRYUM ARGENTEUM Linn.
BRYUM PROLIFERUM (L.) Sibth.
LEPTOBRYUM PYRIFORME (L.) Wils.

FUNARIACEÆ.

FUNARIA HYGROMETICA (L.) Sibth.
FUNARIA HYGROMETICA PATULA Br. & Sch.
FUNARIA FLAVICANS Michx.
PHYSCOMITRIUM PYRIFORME (L.) Brid.

TORTULACEÆ.

LEERSIA STREPTOCARPA (Hedw.) Lindb.
TORTULA MURALIS (L.) Hedw.
BARBULA HUMILIS Hedw.
BARBULA TORTUOSA (L.) Web. & Mohr.
MOLLIA VIRIDULA (L.) Lindb.

DICRANACEÆ.

LEUCOBRYUM GLAUCUM (L.) Br. & Sch.

DICRANODONTIUM VIRGINICUS, E. G. Britton, Fl. W. Va., 488 (1892) Plate.

Monongalia: On sandstone boulder along a woodland path, Tibb's Run (*Millspaugh*, 1635).

Plants bright glossy green, stems matted below by a red tomentum, leafy nearly to apex, denudate roughened above, with a few leaves at summit; leaves erect or secund, straight or curled and twisted, often 5 mm. long, narrowly subulate, from a short, thick base, caducous ones with a long, slender, smooth point; persistent ones serrate, blade inflexed, cells densely chlorophyllose, filled with oil globules, those of the basal angles clear. Diœcious, the antheridia terminal in conspicuous heads, bracts brown at base, apex subulate, serrate; perichætial bracts 3–4 mm. long, from a short base, suddenly subulate, dentate at apex; pedicels lateral by the growth of innovations, 1½–2 cm. long, pale, glossy yellow, twisted in two directions, very slender, arcuate when young, becoming erect before capsules mature. Capsule cylindric, ribbed only at the mouth, 1½–2 mm. long, beak straight or curved, shorter than the capsule, peristome bright red, *not deep set*, teeth split unequally to middle, striolate at base, pale and granulose above, annulus none, spores small, calyptra cucullate, 2 mm. long, beaked, entire. Maturing in summer.

Differs from European specimens of *D. longirostre* collected by Seringe; in the longer, paler, more slender, scarcely arcuate pedicels, longer capsules, peristome not deep set, and teeth split only to the middle, more united than figured in the Bryologia

Europea, Table 88. It may be distinguished from *Campylopus Virginicus*, also remarkable for its caducous leaves, by the longer, more slender subulate point, which is entire or minutely serrate and smooth on the back, by the thick base, with inflexed blades, and by the shape of the basal cells at the angles.

DICRANODONTIUM MILLSPAUGHI, E. G. Britton, Fl. W. Va., 488 (1892). Plate.

Monongalia: on sandstone boulder, deep woods, Tibb's Run (*Millspaugh*, 1596).

Plant slight yellowish green, silky, cæspitose; stems matted with rufous tomentum at base, 1–3 cm. long, a few denudate, roughened by the fragments of the slightly caducous leaves. Leaves secund or erect-spreading, 4–5 mm. long, narrowly subulate from a broad base 1–1½ mm. long, becoming tubular above with inrolled margins, basal angles not auricled, filled by large hyaline cells to the base of the broad, brown vein, those of the blade oblong or square next the vein, becoming spindle-shaped and prosenchymatous toward the margin, vein thick, excurrent into a dentate slender tip, rough on back. Diœcious, perichætium 5–7 mm. long, bracts sheathing half their length, tapering to a long, slender, obscurely serrate tip, outer shorter, abruptly subulate, more sharply serrate; pedicels recurved, burying the capsules among the leaves, becoming erect when old, 5-8 mm. long, stout and twisted in two directions; capsules pyriform-cylindric with a distinct neck, length about 1 mm. without the lid, which is as long as the rest of the capsule, with a straight beak; calyptra cucullate, entire; peristome red, connivent, teeth deep set, slender, split to middle, or perforate to base, striolate below, granulose above; annulus none, mouth bordered by a dense, dark rim. Maturing in summer, old capsules persistent, not sulcate.

Differs from European specimens of *D. longirostre* in the structure of the base of the leaf, lacking the suddenly inflated basal auricles; differing also in the cells above the base, teeth not split to base, occasionally only perforate. From *D. Virginicus* it may be distinguished by the less caducous leaves, shorter, stouter, more arcuate pedicels, smaller capsules, and longer sheathing perichætium.

Through the kindness of Dr. Robinson I have been able to compare these specimens with those collected by Sullivant on Grandfather Mt. in 1843. His also are fruiting, and an excellent drawing is preserved, hence I am able to assert that the specimens are almost identical. Sullivant's showing no naked stems, but many of the leaves are caducous. Dr. Braithwaite kindly compared the West Virginia specimens with *Campylopus pyriformis*, sending me specimens of this and the variety *Mulleri*, and sketches of the bases of the leaves. It is evident that Sullivant was mistaken in referring his specimens to *C. flexuosus*, as they are more closely allied to *Dicranodontium longirostre*, var. *alpinus*.

DICRANUM FLAGILLARE Hedw.

DICRANUM SCOPARIUM (L.) Hedw.

Dicranum longifolium Hedw. (*Nuttall*).
DICRANUM FULVUM Hook.
DICRANELLA HETEROMALLA (L.) Schimp.
DITRICHUM PALLIDUM Schreb.
CERATODON PURPUREUS (L.) Brid.

GRIMMIACEÆ.

WEISSIA AMERICANA (P. Beauv.) Lindb.
Weissia ulophylla Ehrh. (*Nuttall*).
ORTHOTRICHUM BRAUNII Br. & Sch.
Orthotrichum Ohioense S. and L. (*Nuttall*).

HYPNACEÆ.

THUIDIUM RECOGNITUM (Hedw.) Lindb.
ANOMODON ROSTRATUS (Hedw.) Schimp.
ANOMODON ATTENUATUS (Schreb.) Hedw.
AMBLYSTEGIUM ADNATUM Hedw.
AMBLYSTEGIUM SERPENS (L.) Br. & Sch.
AMBLYSTEGIUM ORTHOCLADON (Beauv.) Aust. *Amblystegium serpens orthocladon* (Beauv.) Aust.
AMBLYSTEGIUM VARIUM (Hedw.) Lindb.
AMBLYSTEGIUM IRRIGUUM (Hook. & Wils.) Br. & Sch.
AMBLYSTEGIUM RIPARIUM (L.) Br. & Sch.
AMBLYSTEGIUM CHRYSOPHYLLUM (Brid.) De Not.
HYPNUM DENTICULATUM Linn.
HYPNUM PALUSTRE ?
HYPNUM MOLLE Dicks.
HYPNUM PROLIFERUM Linn.
HYPNUM RUTABULUM Linn.
HYPNUM RECURVANS Schwaeger.
HYPNUM MICROCARPUM C. Muell.
HYPNUM HIANS Hedw.
HYPNUM DEMISSUM Wils.
HYPNUM PLUMOSUM Huds. *Brachythecium salebrosum*, Br. & Sch.

STEREODONTACEÆ.

THELIA HIRTELLA (Hedw.) Sull.
THELIA ASPRELLA (Schim.) Sull.
HYLOCOMIUM PARIETINUM (L.) Lindb.
Hylocomium rugosum (L.) De Not.

Greenbrier Co., Kate's Mountain, alt. 3,300 ft., on ground (*Small & Vail*).

HYLOCOMIMM TRIQUETRUM (L.) Br. & Sch.

CAMPYLIUM HISPIDULUM (Brid.) Mitt.

CAMPYLIUM CHRYSOPHYLLUM (Brid.) E. G. Britton.
Greenbrier Co., Kate's Mountain, alt. 3,300 ft., on ground (*Small & Vail*).

CAMPYLIUM CHRYSOPHYLLUM TENELLUM L. & J.

PTILIUM CRISTA-CASTRENSE (L.) De Not.

STEREODON IMPONENS (Hedw.) Brid.

STEREODON CUPRESSIFORME (L.) Brid.

STEREODON CURVIFOLIUS (Hedw.) Brid.

PYLAISIA VELUTINA Br. & Sch.

PLAGIOTHECIUM DENTICULATUM Br. & Sch.

PLAGIOTHECIUM DENTICULATUM DENSUM Br. & Sch.

PLAGIOTHECIUM SULLIVANTIÆ Schimp.

CYLINDROTHECIUM SEDUCTRIX (Hedw.) Sull.

CYLINDROTHECIUM CLADORHIZANS (Hedw.) Schimp.

ENTODON PALATINUS (Neck.) Lindb.

NECKERACEÆ.

NECKERA PENNATA (L.) Hedw. (*Nuttall*).

CLIMACIUM AMERICANUM Brid.

LEUCODON JULACEUS (Hedw.) Sull.

LEUCODON BRACHYPUS Brid.

HEDWEGIA CILIATA Ehrh. (*Nuttall*)

Sphagna.

SPHAGNACEÆ.

SPHAGNUM CYMBIFOLIUM Ehrh.

Petridophyta.

OPHIOGLOSSACEÆ.

OPHIOGLOSSUM VULGATUM Linn.

BOTRYCHIUM TERNATUM (Thunb.) Sw.

BOTRYCHIUM TERNATUM AUSTRALE (R. Br.) Eaton.

BOTRYCHIUM TERNATUM RUTÆFOLIUM Man.

BOTRYCHIUM TERNATUM OBLIQUUM (Muhl.) Milde.

BOTRYCHIUM TERNATUM DISSECTUM (Spreng.) Milde.

BOTRYCHIUM VIRGINIANUM (Linn.) Sw.

FILICES.

POLYPODIUM VULGARE Linn.

POLYPODIUM VULGARE *forma* BISSERATA Millsp. Fl. W. Va., 479 (1892). "A form with regularly doubly-serrate thinnish fronds. On mossy boulders along the Blackwater fork of Cheat river."

POLYPODIUM POLYPODIOIDES (Linn.) Hitch. *Polypodium incanum* Sw.

CHEILANTHES LANOSA (Michx.) Watt. *C. vestita* (Spreng.) Sw.

CHEILANTHES GRACILIS (Fee.) Met. *C. lanuginosa*, Nutt.

PELLÆA ATROPURPUREA (Linn.) Link.

PTERIS AQUILINA Linn.

ADIANTUM PEDATUM Linn.

ASPLENIUM PINNATIFIDUM Nutt.

ASPLENIUM TRICHOMANES Linn.

ASPLENIUM PLATYNEURON (Linn.) Oakes.

ASPLENIUM MONTANUM Willd.

ASPLENIUM ANGUSTIFOLIUM Michx.

ASPLENIUM ACROSTICHIOIDES Sw.

ASPLENIUM FILIX-FŒMINA (Linn.) Bernh.

CAMPTOSORUS RHIZOPHYLLUS (Linn.) Link.

PHEGOPTERIS PHEGOPTERIS (Linn.) Underw.

PHEGOPTERIS HEXAGONOPTERA (Michx.) Fee.

PHEGOPTERIS DRYOPTERIS (Linn.) Fee.

DRYOPTERIS THELYPTERIS (Linn.) A. Gray. *Aspidium Thelypteris* (L.) Sw.

DRYOPTERIS NOVEBORACENSE (Linn.) A. Gray. *Aspidium Noveboracense* (L.) Sw.

DRYOPTERIS FRAGRANS (Linn.) Schott. *Aspidium fragrans* (L.) Sw.

DRYOPTERIS SPINULOSA (Retz.) O. K. *Aspidium spinulosum* (Retz.) Sw.

DRYOPTERIS SPINULOSA INTERMEDIA (Muhl.) Underw. *Aspidium spinulosum* var. *intermedium* Eaton.

DRYOPTERIS SPINULOSA DILATATA (Hoffm.) Underw. *Aspidium spinulosum* var. *dilatatum* Hook.

DRYOPTERIS SIMULATA Davenport, Bot. Gaz. 29, 495 (1894).

Aspidium spinulosum var. Comparing my specimens from the deep, wet woods of Randolph Co. with specimens of *D. simulata* recently sent me by Professor Davenport, I find them identical. In publishing the species Professor Davenport includes it under Dryopteris as well as Aspidium, Nephrodium and Lastrea.

DRYOPTERIS CRISTATA (Linn.) A. Gray. *Aspidium cristatum* (L.) Sw.

DRYOPTERIS GOLDIEANA (Hook) A. Gray. *Aspidium Goldieanum* Hook.

DRYOPTERIS FILIX-MAS (Linn.) Schott. *Aspidium Filix-mas* Sw.

DRYOPTERIS MARGINALIS (Linn.) A. Gray. *Aspidium marginale* Sw.

DRYOPTERIS ACROSTICHIOIDES (Michx.) O. K. *Aspidium achrostichioides* Sw.

DRYOPTERIS ACROSTICHIOIDES SCHWEINITZII (Beck). *Aspidium achrostichioides Schweinitzii* (Beck.) B. S. P.

CYSTOPTERIS BULBIFERA (Linn.) Bernh.

CYSTOPTERIS FRAGILIS (Linn.) Bernh.

ONOCLEA SENSIBILIS Linn.

WOODSIA OBTUSA (Spreng.) Torr.

DICKSONIA PUNCTILOBULA (Michx.) A. Gray.

OSMUNDA REGALIS Linn.

OSMUNDA CLAYTONIANA Linn.

OSMUNDA CINNAMOMEA Linn.

EQUISETACEÆ.

EQUISETUM ARVENSE Linn.

EQUISETUM SYLVATICUM Linn.

EQUISETUM HYEMALE Linn.

EQUISETUM LÆVIGATUM A. Br.

LYCOPODIACEÆ.

LYCOPODIUM LUCIDULUM Michx.

LYCOPODIUM ANNOTINUM Linn.

LYCOPODIUM OBSCURUM Linn (*Nuttall*).

LYCOPODIUM CLAVATUM Linn.

LYCOPODIUM COMPLANATUM Linn.

SELAGINELLACEÆ.

SELAGINELLA RUPESTRIS (Linn.) Spring.

Anthophyta.

CONIFERACEÆ.

THUJA OCCIDENTALIS Linn.

JUNIPERUS COMMUNIS Linn.

JUNIPERUS VIRGINIANA Linn.

Jefferson Co., plentiful near Harper's Ferry, trunks 7 to 9 inches in diameter.

TAXUS MINOR (Michx.) Britton. *Taxus baccata* var. *Canadensis* A. Gray.

PINUS STROBUS Linn.

PINUS TÆDA Linn.

PINUS RIGIDA Mill.

PINUS PUNGENS Michx. f.

PINUS VIRGINIANA Mill.

Greenbrier Co., slopes of Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

PINUS ECHINATA Mill.

PICEA MARIANA (Mill.) B. S. P.

TSUGA CANADENSIS (Linn.) Carr.

ABIES BALSAMEA (Linn.) Miller.

TYPHACEÆ.

TYPHA LATIFOLIA Linn.

SPARGANIACEÆ.

SPARGANIUM EURYCARPUM Engelm.

NAIDACEÆ.

POTAMOGETON LONCHITES Tuck. *P. fluitans* Roth.

ALISMACEÆ.

ALISMA PLANTAGO-AQUATICA Linn.

SAGITTARIA LATIFOLIA Willd. *S. sagittæfolia* Linn. forma *hastata* et *angustifolia*.

SAGITTARIA GRAMINEA Michx.

HYDROCHARITACEÆ.

UDORA CANADENSIS (Michx.) Nutt. *Elodea Canadensis* Michx.

GRAMINACEÆ.

SPARTINA CYNOSUROIDES (Linn.) Willd.

PASPALUM SETACEUM Michx. *P. setaceum ciliatifolium* (Michx.) is included.

PASPALUM LÆVE Michx.

PANICUM SANGUINALE Linn.

PANICUM SANGUINALE *forma* DEPAUPERATA, Vasey.

This form from dry sterile fields along Falling Run, Monongalia Co., was given the prominence of a form name by Dr. Vasey (1892).

PANICUM PROLIFERUM Lam. *P. proliferum geniculatum* (Eu.) Vasey, included.

PANICUM CAPILLARE Linn.

PANICUM CAPILLARE AGRESTRE Gatt.

PANICUM ANCEPS Michx.

PANICUM AGROSTIDIFORME Lam. *P. agrostioides* Trin.

PANICUM VIRGATUM Linn.

PANICUM WALTERI Poir. *P. latifolium Linn.*

PANICUM CLANDESTINUM Linn.

PANICUM DEPAUPERATUM Muhl.

PANICUM DICHOTOMUM Linn.

forma COMMUNE Man.
forma FASCICULATUM Man.
forma GRACILE Man.

PANICUM DICHOTOMUM ELATUM.

PANICUM PUBESCENS Lam.

PANICUM CRUS-GALLI Linn.

PANICUM CRUS-GALLI HISPIDUM (Muhl.) Torr.

CHAMÆRAPHIS GLAUCA (Linn.) O. K.

CHAMÆRAPHIS VIRIDIS (Linn.) Millsp. Fl. W. Va. (1892).

CHAMÆRAPHIS ITALICA (Linn.) O. K.

CENCHRUS TRIBULOIDES Linn.

HOMALOCENCHRUS VIRGINICUS (Willd.) Britton.

HOMALOCENCHRUS ORYZOIDES (Linn.) Poll.

TRIPSACUM DACTYLOIDES Linn.

ANDROPOGON PROVINCIALIS Lam.

ANDROPOGON SCOPARIUS Michx.

ANDROPOGON VIRGINICUS Linn.

ANDROPOGON NUTANS LINNÆNUS Hack.

PHALARIS ARUNDINACEA Linn.

ARISTIDA DICHOTOMA Linn.

ARISTIDA OLIGANTHA Michx.

ARISTIDA LANATA Poir.

MUHLENBERGIA SOBOLIFERA (Muhl.) Trin.

MUHLENBERGIA MEXICANA (Linn.) Trin.

MUHLENBERGIA SYLVATICA (Torr.) A. Gray.

MUHLENBERGIA DIFFUSA Schreb.

BRACHYELYTRUM ERECTUM (Schreb.) Beauv. *Brachyelytrum aristosum* (Michx.) B. S. P.

BRACHYELYTRUM ERECTUM GLABRATUM (Vasey.)

Brachyelytrum aristosum glabratum Vasey, mss. In Millsp. Flora W. Va., 469 (1892).

A new variety discovered by Mr. L. W. Nuttall. It agrees with the species except that it is perfectly smooth, and has an awn pointed second glume which is about one-half the length of the flowering glume. Its most striking peculiarity is that it has invariably two culms from each rootstock.

High, rocky woods, rare.

PHLEUM PRATENSE Linn.

AGROSTIS ALBA Linn.

AGROSTIS ALBA VULGARIS (With.) Thurb.

Forma ARISTATA Millsp. in Fl. W. Va., 469 (1892).

AGROSTIS PERENNANS (Walt.) Tuck.

AGROSTIS HIEMALIS (Walt.) B. S. P.

Calamagrostis cinnoides (Muhl.) Scribn. (*Nuttall*).

CINNA ARUNDINACEA Linn.

ARRHENATHERUM ELATIUS (Linn.) Beauv.

HOLCUS LANATUS Linn.

DANTHONIA SPICATA (Linn.) Beauv.

DANTHONIA COMPRESSA Austin.

ELEUSINE INDICA (Linn.) Gærtn.

DACTYLOCTENIUM ÆGYPTICUM (Linn.) Willd. *Eleusine Ægyptica* Pers.

SIEGLINGIA SESLERIOIDES (Michx.) Scribn. *Sieglingia cuprea* (Michx.)

EATONIA OBTUSATA (Michx.) A. Gray.

EATONIA PENNSYLVANICA (DC.) A. Gray.

ERAGROSTIS HYPNOIDES (Lam.) B. S. P.

ERAGROSTIS ERAGROSTIS (Linn.) Karst. *Eragrostis minor* Host.

ERAGROSTIS MAJOR Host.

ERAGROSTIS PILOSA (Linn.) Beauv.

ERAGROSTIS CAROLINIANA (Spreng.) Scribn. *Eragrostis Purshii* Schrad.

ERAGROSTIS CAPILLARIS (Linn.) Nees.

ERAGROSTIS FRANKII Meyer.

MELICA MUTICA Walt.

KORYCARPUS DIANDRUS (Michx.) O. K. *Corycarpus Americanus* (Beauv.)

UNIOLA LATIFOLIA Michx.

DACTYLIS GLOMERATA Linn.

POA ANNUA Linn.

POA COMPRESSA Linn.
    Forma DEPAUPERATA Fl. W. Va., 472 (1892).
POA PRATENSIS Linn.
POA TRIVALIS Linn.
POA SYLVESTRIS A. Gray.
POA ALSODES A. Gray.
POA AUTUMNALIS Muhl. *Poa flexuosa* Muhl. not Wahl.
POA BREVIFOLIA Muhl.
PANICULARIA CANADENSIS (Michx.) O. K.
PANICULARIA ELONGATA (Torr.) O. K.
PANICULARIA NERVATA (Willd.) O. K.
    Forma MAJOR Fl. W. Va., 473 (1892).
FESTUCA OCTOFLORA Walt.
FESTUCA ELATIOR Linn.
FESTUCA ELATIOR PRATENSIS (Huds.) Hack. *Festuca pratensis* Huds.
FESTUCA NUTANS Willd.
BROMUS HORDEACEUS Linn. *Bromus mollis* Linn.
BROMUS SECALINUS Linn.
BROMUS RACEMOSUS Linn.
BROMUS CILIATUS Linn.
LOLIUM PERENNE Linn.
ELYMUS VIRGINICUS Linn.
ELYMUS CANADENSIS GLAUCIFOLIUS (Willd.) Torr.
ELYMUS STRIATUS Willd.
ELYMUS STRIATUS VILLOSUS (Muhl.) A. Gray.
HYSTRIX HYSTRIX (Linn.) Millsp. Fl. W. Va., 474 (1892).

CYPERACEÆ.

CYPERUS FLAVESCENS Linn.
CYPERUS DIANDRUS Torr.
CYPERUS ESCULENTUS Linn.
CYPERUS STRIGOSUS Linn.
CYPERUS REFRACTUS Engelm.
CYPERUS LANCASTRIENSIS Porter.
KYLLINGA PUMILA Michx.
DULICHIUM ARUNDINACEUM (Linn.) Britton. *Dulichium spathaceum* Pers.
ELEOCHARIS TUBERCULOSA (Michx.) R. & S.
ELEOCHARIS OVATA (Roth.) R. & S.
ELEOCHARIS PALUSTRIS (Linn.) R. & S.
ELEOCHARIS PALUSTRIS GLAUCESCENS (Willd.) A. Gray.
ELEOCHARIS TENUIS (Willd.) Schult.
ELEOCHARIS ACICULARIS (Linn.) R. & S.
FIMBRISTYLIS AUTUMNALIS (Linn.) R. & S.

Scirpus americanus Pers. *Scirpus pungens* Vahl.
Scirpus lacustris Linn.
Scirpus sylvaticus Linn.
Scirpus atrovirens Muhl.
Scirpus polyphyllus Vahl.
Scirpus lineatus Michx. *Eriophorum lineatum* (Michx.) Benth & Hook.
Scirpus cyperinus (Linn.) Kunth. *Eriophorum cyperinum* Linn.
Eriophorum Virginicum Linn.
Rynchospora glomerata (Linn.) Vahl.
Carex folliculata Linn.
Carex intumescens Rudge.
Carex Asa-Grayi Bailey. *Carex Grayii* Carey.
Carex lupulina Muhl.
Carex lurida Wahl.
Carex lurida gracilis (Boott.) Bailey.
Carex Frankii (Kunth.) *Carex stenolepis* Torr.
Carex squarrosa Dewey.
Carex stricta Lam.
Carex torta Boott.
Carex prasina Wahl.
Carex crinita Lam.
Carex crinita × prasina Bailey, Flor. W. Va., 460 (1892).
Carex virescens Muhl.
Carex virescens costata (Schw.) Dewey.
Carex triceps hirsuta (Willd.) Bailey.
Carex debilis Rudgei Bailey.
Carex venusta minor Bœckl.
Carex gracillima Schw.
Carex amphibola Steud. *Carex grisea angustifolia* Boott.
Carex glancodea Tuck.
Carex laxiflora Lam.
Carex laxiflora patulifolia (Dewey.) Carey.
Carex albursina Sheldon. *Carex laxiflora latifolia* Boott.
Carex digitalis Willd.
Carex laxiculmis Schw.
Carex platyphylla Carey (*Nuttall*).
Carex plantaginea Lam. (*Nuttall*).
Carex Varia Muhl. (*Nuttall*).
Carex varia colorata Bailey.
Carex Pennsylvanica Lam.
Carex pedicillata (Dewey.) Britton. *Carex communis* Bailey.
Carex Jamesii Schw.
Carex leptalea Wahl. *Carex polytrichioides* Muhl.

CAREX FRASERI And.

The following remarks of Prof. T. C. Porter render it evident that this rare and odd sedge came originally from Randolph or Barbour County, each of which lies between the headwaters of the two Kanawhas:

"Muhlenberg, in his *Descriptio uberior Graminum*, etc., p. 265, under *C. lagopus?* which is *C. Fraseri*, Andrews adds these words: 'Habitat in Tyger-Valley, Pennsylvaniæ, *unde siccam habeo et vivam*." Kin, the German gardener who collected in Pennsylvania brought it home, and his label reads thus: 'Deigher Walli in der Wilternus.' Dr. Gray has shrewdly conjectured that by 'Deigher Walli,' or Tygert Valley, is meant Tygart's Valley, which lies further south in Virginia." In a foot-note, Professor Porter adds, "A box containing the Carices of Muhlenberg has just been discovered (1877) in the herbarium of the Academy, Philadelphia, and the label attached to the specimens of Kin's collection places Tyger Valley 'prope amnem Kenahway.'"

Mr. Nuttall has found a plentiful station for this species near Nuttallburg in the Great Kanawha region.

CAREX STIPATA Muhl.

CAREX VULPINOIDEA Michx.

CAREX ROSEA Schk.

CAREX ROSEA RADIATA Dewey.

CAREX RETROFLEXA Muhl. *Carex rosea retroflexa* Torr.

CAREX SPARGANIOIDES Muhl.

CAREX MUHLENBERGII var. Bailey.

CAREX MUHLENBERGII XALAPENSIS (Kth.) Britton. *Carex Muhlenbergii enervis* Boott.

CAREX CEPHALOPHORA Muhl.

CAREX CANESCENS VULGARIS Bailey.

CAREX TRIBULOIDES Wahl.

CAREX TRIBULOIDES TURBATA Bailey.

CAREX SCOPARIA Schk.

CAREX STRAMINEA Willd.

ARACEÆ.

ARISÆMA TRIPHYLLUM (Linn.) Torr.

ARISÆMA DRACONTIUM (Linn.) Schott.

SPATHYEMA FŒTIDA (Linn.) Raf.

ACORUS CALAMUS Linn. (*Nuttall*).

LEMNACEÆ.

LEMNA MINOR Linn.

COMMELINACEÆ.

COMMELINA VIRGINICA Linn.

TRADESCANTIA VIRGINIANA Linn.

TRADESCANTIA PILOSA Lehm.

JUNCACEÆ.

JUNCUS EFFUSUS Linn.

JUNCUS SETACEUS Rostk.

JUNCUS MARGINATUS Rostk.

JUNCUS MARGINATUS PAUCICAPITATUS Engelm.

JUNCUS TENUIS Willd.

JUNCUS ACUMINATUS Michx.

JUNCUS NODOSUS Linn.

JUNCUS CANADENSIS J. Gay.

JUNCOIDES PILOSUM (Linn.) O. K. *Luzula pilosa* Willd.

JUNCOIDES CAMPESTRE (Linn.) O. K. *Luzula cumpestris* DC.

LILIACEÆ.

ASPARAGUS OFFICINALIS Linn.

POLYGONATUM BIFLORUM (Walt.) Ell.

POLYGONATUM BIFLORUM COMMUTATUM (R. & S.) Morong. *Polygonatum commutatum* Dietr.

STREPTOPUS ROSEUS Michx.

DISPORUM LANUGINOSUM (Michx.) Britton.

VAGNERA RACEMOSA (Linn.) Morong. *Unifolium racemosum* Britton.

UNIFOLIUM CANADENSE (Desf.) Greene. *Maianthemum Canadense* Desf.

HEMEROCALLIS FULVA Linn.

ALLIUM VINEALE Linn.

ALLIUM TRICOCCUM Aiton.

ALLIUM CERNUUM Roth.

ALLIUM CANADENSE Kalm.

CAMASSIA FRASERI (A. Gray) Torr.

MUSCARI BOTRYOIDES (Linn.) Mill.

ORINTHOGALLUM UMBELLATUM Linn.

LILIUM PHILADELPHICUM Linn.

LILIUM SUPURBUM Linn. (*Nuttall*).

LILIUM CANADENSE Linn.

LILIUM TIGRINUM Andr.

ERYTHRONIUM AMERICANUM Ker.

Erythronium albidum Nutt.
Rich soil, Kanawha region, along Coal and Len's Creeks, Ohio Co., near Mt. de Chantal (*Rev. A. Boutlou*).

CHAMÆLIRIUM LEUTEUM (Linn.) A. Gray.

UVULARIA PERFOLIATA Linn.

Uvularia puberula Michx.
Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

UVULARIA SESSILIFOLIA Linn.

CLINTONIA BOREALIS (Ait.) Raf.

CLINTONIA UMBELLULATA (Michx.) Torr.

MEDIOLA VIRGINIANA Linn.
TRILLIUM SESSILE Linn.
TRILLIUM ERECTUM Linn.
TRILLIUM ERECTUM ALBUM Pursh.
TRILLIUM ERECTUM DECLINATUM Pursh.
TRILLIUM GRANDIFLORUM (Michx.) Salisb.
TRILLIUM CERNUUM Linn.
TRILLIUM NIVALE Riddell.
TRILLIUM UNDULATUM Willd. *Trillium erythrocarpum* Michx.
ALETRIS FARINOSA Linn.
MELANTHIUM VIRGINICUM Linn.
MELANTHIUM PARVIFLORUM (Michx.) S. Wats.
VERATRUM VIRIDE Ait. (*Nuttall*).
CHROSPERMA MUSCÆTOXICUM (Walt.) O. K.

SMILACEÆ.

SMILAX HERBACEA Linn.
SMILAX ROTUNDIFOLIA Linn.
SMILAX GLAUCA Walt.
SMILAX PSEUDO-CHINA Linn.
SMILAX HISPIDA Muhl. (*Nuttall*).

AMARYLLIDACEÆ.

HYPOXIS HIRSUTA (Linn.) Coville. *Hypoxis erecta* Linn.

DIOSCOREACEÆ.

DIOSCOREA VILLOSA Linn.

IRIDACEÆ.

IRIS VERSICOLOR Linn.
IRIS VERNA Linn.
IRIS CRISTATA Ait.
SISYRINCHIUM BERMUDIANA Linn. *S. angustifolium* Mill. *S. anceps* Cav.

ORCHIDACEÆ.

ACHROANTHES UNIFOLIA (Michx.) Raf. *Malaxis unifolia* Michx.
LEPTORCHIS LILIIFOLIA (Linn.) O. K. (*Nuttall*).
APLECTRUM SPICATUM (Walt.) B. S. P.
CORALLORHIZA CORALLORHIZA (Linn.) Karst. *C. innata* R. Br.
CORALLORHIZA ODONTORHIZA (Willd.) Nutt.
CORALLORHIZA MULTIFLORA Nutt.
GYROSTACHYS CERNUA (Linn.) O. K.
GYROSTACHYS GRACILIS (Biegl.) O. K.
PERAMIUM REPENS (Linn.) Salisb. *Goodyera repens* R. Br.

PERAMIUM PUBESCENS (Willd.) C. C. Curtis. *Goodyera pubescens* R. Br.

LIMODORUM TUBEROSUM Linn. *Calopogon tuberosus* (Linn.) B. S. P.

POGONIA OPHIOGLOSSOIDES (Linn.) Ker. *Pogonia trianthophora* (Sw.) B. S. P. (*Nuttall*).

ORCHIS SPECTABILIS Linn.

HABENARIA CLAVELLATA (Michx.) Spreng. *H. tridentata* Hook.

HABENARIA FLAVA (Linn.) A. Gray.

HABENARIA ORBICULATA (Pursh) Torr.

HABENARIA CILIARIS (Linn.) R. Br.

HABENARIA LACERA (Michx.) R. Br. *Habenaria peramœna* A. Gray. (*Nuttall*).

HABENARIA PSYCODES (Linn.) A. Gray.

CYPRIPEDIUM PARVIFLORUM Salisb.

CYPRIPEDIUM HIRSUTUM Mill. *C. pubescens* Willd.
Slope of Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

CYPRIPEDIUM ACAULE Ait.

SAURURACEÆ.

SAURURUS CERNUUS Linn.

JUGLANDACEÆ.

JUGLANS CINEREA Linn.

JUGLANS NIGRA Linn.

HICORIA OVATA (Mill.) Britton.

HICORIA SULCATA (Willd.) Britton.

HICORIA ALBA (Linn.) Britton.

HICORIA GLABRA (Mill.) Britton.

HICORIA MICROCARPA (Nutt.) Britton.

HICORIA MINIMA (Marsh.) Britton. (*Nuttall.*)

SALICACEÆ.

SALIX NIGRA Marsh.

SALIX NIGRA FALCATA Torr.

SALIX AMYGDALOIDES And.

SALIX ALBA VITELLINA Koch.

SALIX BABYLONICA Tourn.

SALIX DISCOLOR Muhl.

SALIX HUMILIS Marsh.

SALIX SERICEA Marsh.

SALIX CORDATA Muhl.

POPULUS ALBA Linn.

POPULUS TREMULOIDES Michx.

POPULUS GRANDIDENTATA Michx.

POPULUS BALSAMIFERA CANDICANS (Ait.) A. Gray.

POPULUS MONILIFERA Ait.

BETULACEÆ.

BETULA LENTA Linn.

Betula lenta × lutea.

A number of specimens of this hybrid birch were found in 1892 at Pickens, Randolph Co. In all, the bark forms of each species were intermixed. All the specimens were small saplings about 2 in. in diameter (*Millspaugh*).

BETULA LUTEA Michx. f. (*Nuttall*).

BETULA POPULIFOLIA Marsh.

BETULA NIGRA Linn.

ALNUS VIRIDIS (Chaix.) DC.

ALNUS RUGOSA (Ehrh.) Koch.

CARPINUS CAROLINIANA Walt.

OSTRYA VIRGINIANA (Mill.) Willd.

CORYLUS AMERICANA Walt. (*Nuttall*).

CORYLUS ROSTRATA Ait.

FAGACEÆ.

QUERCUS ALBA Linn.

QUERCUS MINOR (Marsh). Sarg.

QUERCUS MACROCARPA Michx.

QUERCUS PRINUS Linn.

QUERCUS MUHLENBERGII Engelm.

QUERCUS RUBRA Linn.

QUERCUS COCCINEA Wang.

QUERCUS VELUTINA Lam. *Q. tinctoria* Bartr.

QUERCUS PALUSTRIS DuRoi. (*Nuttall*).

QUERCUS DIGITATA (Marsh) Sudw. *Q. cuneata* Wang.

QUERCUS NIGRA Linn.

QUERCUS ILICIFOLIA Wang.

QUERCUS IMBRICARIA Michx.

CASTANEA DENTATA (Marsh.) Sudw. *C. sativa Americana* Wats. & Coult.

CASTANEA PUMILA Mill.

FAGUS ATROPUNICEA (Marsh.) Sudw. *F. ferruginea* Ait.

ULMACEÆ.

ULMUS PUBESCENS Walt. *U. fulva* Michx.

ULMUS AMERICANA Linn.

ULMUS RACEMOSA Thomas.

CELTIS OCCIDENTALIS Linn.

MORACEÆ.

CANNABIS SATIVA Linn.

HUMULUS LUPULUS Linn.

MORUS RUBRA Linn.

MORUS ALBA Linn.

Toxylon pomiferum Raf. *Maclura aurantiaca* Nutt.

Banks of the Ohio River, Mason Co., near Point Pleasant. (*Millspaugh*).

PAPYRIUS PAPYRIFERA (Vent.) O. K. *Broussonetia papyrifera* Vent.

URTICACEÆ.

URTICA GRACILIS Ait.

URTICA URENS Linn.

URTICASTRUM DIVARICATUM (Linn.) O. K. *Laportea Canadensis* Gaud.

ADICEA PUMILA (Linn.) Raf. *Pilea pumila* A. Gray.

BOEHMERIA CYLINDRICA (Linn.) Willd.

LORANTHACEÆ.

PHORADENDRON FLAVESCENS (Pursh) Nutt.

SANTALACEÆ.

PYRULARIA PUBERA Michx.

Also found in Nicholas Co., along Peter Creek. (*Rev. A. Boutlou.*)

ARISTOLOCHIACEÆ.

ASARUM CANADENSE Linn.

ASARUM VIRGINICUM Linn.

ARISTOLOCHIA SERPENTARIA Linn.

ARISTOLOCHIA MACROPHYLLA Lam. *A. Sipho* L'Her.

POLYGONACEÆ.

ERIGONUM ALLENII Watson, in A. Gray, Man. Ed. 6, 734 (1890).

Perennial, white tomentose throughout, the tall scape-like stem repeatedly dichotomous above; radical leaves lanceolate, long-petiolate, the upper in whorls of 4 or 5, ovate to ovate-oblong, very shortly petiolate, much reduced above; involucres mostly sessile; flowers glabrous, yellow, the segments elliptical.

Near White Sulphur Springs, Greenbrier Co. (*Dr. T. F. Allen*).

POLYGONUM ORIENTALE Linn.

POLYGONUM PENNSYLVANICUM Linn.

POLYGONUM PERSICARIA Linn.

POLYGONUM PERSICARIA *forma* ALBIFLORA Millsp. Fl. W.Va. 332 (1892).

POLYGONUM HYDROPIPER Linn.

POLYGONUM PUNCTATUM Ell. *P. acre* H. B. K.

POLYGONUM HYDROPIPEROIDES Michx.

POLYGONUM VIRGINIANUM Linn.

POLYGONUM AVICULARE Linn.

POLYGONUM ERECTUM Linn.

POLYGONUM TENUE Michx.

POLYGONUM SAGITTATUM Linn.
POLYGONUM ARIFOLIUM Linn.
POLYGONUM CONVOLVULUS Linn.
POLYGONUM SCANDENS Linn. *P. dumetorum scandens* A. Gray.
FAGOPYRUM FAGOPYRUM (Linn.) Karst. *F. esculentum* Mœnch.
RUMEX BRITTANICA Linn.
RUMEX CRISPUS Linn.
RUMEX OBTUSIFOLIUS Linn.
RUMEX CRISPUS × OBTUSIFOLIUS (Meisn.)
RUMEX SANGUINEUS Linn.
RUMEX CONGLOMERATUS Murr.
RUMEX ACETOSELLA Linn.

CHENOPODIACEÆ.

CHENOPODIUM ALBUM Linn.
CHENOPODIUM ALBUM VIRIDE (Linn.) Moq.
CHENOPODIUM HYBRIDUM Linn.
CHENOPODIUM URBICUM Linn.
CHENOPODIUM GLAUCUM Linn.
CHENOPODIUM BOTRYS Linn.
CHENOPODIUM AMBROSIOIDES Linn.
CHENOPODIUM ANTHELMINTICUM Linn. *C. ambrosioides anthelminticum* A. Gray.

AMARANTHACEÆ.

AMARANTHUS HYBRIDUS Linn. *A. hypochondriacus* Linn. *A. chlorostachys* Willd. (*Nuttall*).
AMARANTHUS HYBRIDUS PANICULATUS (Linn.) Uline & Bray. *A. paniculatus* Linn.
AMARANTHUS RETROFLEXUS Linn. (*Nuttall*).
AMARANTHUS ALBUS Linn.
AMARANTHUS SPINOSUS Linn.

PHYTOLACCACEÆ.

PHYTOLACCA DECANDRA Linn.

AIZOACEÆ.

MOLLUGO VERTICILLATA Linn.

PORTULACACEÆ.

PORTULACA OLERACEA Linn.
CLAYTONIA VIRGINICA Linn.
CLAYTONIA CAROLINIANA Michx.

CARYOPHYLLACEÆ.

DIANTHUS ARMERIA Linn.

SAPONARIA OFFICINALIS Linn.

SILENE STELLATA (Linn.) Ait.

SILENE VIRGINICA (Linn.)

SILENE ALBA Muhl. *S. nivea* Otth.

SILENE CAROLINIANA Walt. *S. Pennsylvanica* Michx.

Greenbrier Co., on Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

SILENE ANTERRHINA Linn.

AGROSTEMMA GITHAGO Linn. *Lychnis Githago* Lam.

CERASTIUM VULGATUM Linn.

CERASTIUM VISCOSUM Linn.

CERASTIUM ARVENSE Linn.

CERASTIUM LONGIPEDUNCULATUM Muhl. *C. nutans* Raf.

ALSINE MEDIA Linn. *Stellaria media* Smith.

ALSINE PUBERA (Michx). Britton. *Stellaria pubera* Michx.

ALSINE LONGIFOLIA (Muhl.) Britton. *Stellaria longifolia* Muhl.

ARENARIA SERPYLLIFOLIA Linn.

SPERGULA ARVENSIS Linn. (*Nuttall*).

ANYCHIA CANADENSIS (Linn.) B. S. P.

Anychia dichotoma Michx.

This species first appeared in this locality in 1895, at the bottom of a newly excavated railroad cut. Had the seeds been buried and dormant? (*Nuttall*, 1837).

PARONYCHIA DICHOTOMA (Linn.) Nutt.

NYMPHACEÆ.

CASTALIA ODORATA (Dryand) Woodv. & Wood.

NYMPHÆA ADVENA Soland.

MAGNOLIACEÆ.

MAGNOLIA ACUMINATA Linn.

MAGNOLIA TRIPETALA Linn.

MAGNOLIA FRASERI Walt., Fl. Car., 159 (1788).

Leaves oblong-obovate or spatulate, auriculate at the base, glabrous, 8 to 20 in. long; petals obovate-spatulate, with narrow claws, 4 in. long. Flower more graceful and cone of fruit smaller than in the preceding species.

Type locality doubtless in the Alleghanies of West Virginia, where it is abundant and in typical form.

LIRIODENDRON TULIPIFERA Linn.

ANONACEÆ.

ASIMINA TRILOBA (Linn.) Dunal.

RANUNCULACEÆ.

CLEMATIS VIRGINIANA Linn.

CLEMATIS VIORNA Linn.

Clematis ovata Pursh.

Greenbrier Co., in rocky soil high up on Kate's Mountain, near White Sulphur Springs (*N. L. Britton*).

ASTRAGENE AMERICANA Sims. *Clematis verticillaris* DC.

ANEMONE CYLINDRICA A. Gray.

ANEMONE VIRGINIANA Linn.

ANEMONE CANADENSIS Linn.

ANEMONE QUINQUEFOLIA Linn.

ANEMONE TRIFOLIA Linn.

Greenbrier Co., in a dry ravine at White Sulphur Springs, alt. about 2,300 ft. (*A. A. Heller*).

HEPATICA HEPATICA (Linn.) Karst.

HEPATICA ACUTA (Pursh.) Britton.

SYNDESMON THALICTROIDES (Linn.) Hoffmg.

SYNDESMON THALICTROIDES *forma* ROSEA Millsp. Fl. W. Va., 319 (1892).

THALICTRUM DIOICUM Linn.

THALICTRUM POLYGAMUM Muhl.

THALICTRUM PURPURASCENS Linn.

THALICTRUM CLAVATUM DC.

TRAUTVETTERIA CAROLINENSIS (Walt.) Vail? *T. palmata* F. & M.

RANUNCULUS OBTUSIUSCULUS Raf. *R. ambigens* Watson.

RANUNCULUS ABORTIVUS Linn.

RANUNCULUS SCELERATUS Linn.

RANUNCULUS RECURVATUS Poir.

RANUNCULUS FASCICULATUS Muhl.

RANUNCULUS SEPTENTRIONALIS Poir.

RANUNCULUS PENNSYLVANICUS Linn f.

RANUNCULUS REPENS Linn.

RANUNCULUS ACRIS Linn.

HELLEBORUS VIRIDIS Linn.

CALTHA PALUSTRIS Linn.

ISOPYRUM TRIFOLIUM (Linn.) Britt.

AQUILEGIA CANADENSIS Linn.

DELPHINIUM TRICORNE Michx. (*Nuttall*).

DELPHINIUM TRICORNE *forma* ALBIFLORA Millsp. Fl. W. Va., 322 (1892).

DELPHINIUM CONSOLIDA Linn.

ACONITUM UNCINATUM Linn.

CIMICIFUGA AMERICANA Michx.

CIMICIFUGA RACEMOSA (Linn.) Nutt.

ACTÆA RUBRA (Ait.) Willd. *A. spicata rubra* Ait.

ACTÆA ALBA (Linn.) Mill.
HYDRASTIS CANADENSIS Linn.
XANTHORRHIZA APIIFOLIA L'Her.

BERBERIDACEÆ.

BERBERIS CANADENSIS Mill.
BERBERIS VULGARIS Linn.
CAULOPHYLLUM THALICTROIDES (Linn.) Michx.
JEFFERSONIA DIPHYLLA (Linn.) Pers.
PODOPHYLLUM PELTATUM Linn.

MENISPERMACEÆ.

MENISPERMUM CANADENSE Linn.

CALYCANTHACEÆ.

CALYCANTHUS FLORIDUS Linn. *Beurera florida* Ehret.
CALYCANTHUS FERTILIS Walt. *Beurera lævigatus* (Willd.) O.K.

LAURACEÆ.

SASSAFRAS SASSAFRAS (Linn.) Karst. *Sassafras officinale* Nees.
BENZOIN BENZOIN (Linn.) Coult. *Lindera Benzoin* Meisn.

PAPAVERACEÆ.

SANGUINARIA CANADENSIS Linn.
STYLOPHORUM DIPHYLLUM (Michx.) Nutt. (*Nuttall*).
CHELIDONIUM MAJUS Linn.
Glaucium Glaucium (L.) Karst.
Jefferson Co., near Charlestown, Shenandoah Junction, Spring Mill, and Milltown (*Millspaugh*).
PAPAVER DUBIUM Linn.
ADLUMIA FUNGOSA (Ait). Greene.
BICUCULLA CUCULLARIA (Linn.) Millsp. Fl. W. Va., 327 (1892).
BICUCULLA CANADENSIS (Goldie) Millsp. loc. cit.
BICUCULLA EXIMINA (Ker) Millsp. loc. cit.
CAPNOIDES SEMPERVIRENS (Linn.) Bœrk. (*Nuttall.*)
CAPNOIDES FLAVULUM (Raf.) O.K.
CAPNOIDES AUREUM (Willd.) O.K.
FUMARIA OFFICINALIS Linn.

CRUCIFERACEÆ.

RORIPA NASTURTIUM (Linn.) Rusby. *Nasturtium officinale* R. Br.
RORIPA SYLVESTRIS (Linn.) Bess. *Nasturtium sylvestre* R. Br.
RORIPA OBTUSA (Nutt.) Britton. *Nasturtium obtusum* Nutt.
RORIPA PALUSTRIS (Linn.) Bess. *Nasturtium palustre* DC.

RORIPA HISPIDA (Desv.) Britton. *Nasturtium hispidum* DC.
RORIPA ARMORACIA (Linn.) Hitch. *Nasturtium Armoracia* Fries.
BARBAREA BARBAREA (Linn.) MacM. *B. vulgaris* R. Br.
BARBAREA PRAECOX (J. E. Smith) R. Br.
ARABIS PATENS Sulliv.
ARABIS LAEVIGATA (Muhl.) Poir.
ARABIS CANADENSIS Linn.
ARABIS LYRATA Linn.
DENTARIA DIPHYLLA Michx. *Cardamine diphylla* Wood.
DENTARIA HETEROPHYLLA Nutt. *Cardamine heterophylla* Wood.
DENTARIA LACINIATA Muhl. *Cardamine laciniata* Wood.
DENTARIA LACINIATA MULTIFIDA Muhl.
CARDAMINE HIRSUTA Linn.
CARDAMINE BULBOSA (Schreb.) B. S. P.
CARDAMINE DOUGLASSII (Torr.) Britton.
CARDAMINE ROTUNDIFOLIA Michx.
DRABA RAMOSISSIMA Desv.
DRABA VERNA Linn.

Greenbrier Co., on Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

HESPERIS MATRONALIS Linn.
SISYMBRIUM OFFICINALE (Linn.) Scop.
STENOPHRAGMA THALIANA (Linn.) Celak. *Sisymbrium Thalianum* (L. Gay).
ERYSIMUM CHEIRANTHOIDES Linn.
CAMELINA SATIVA (Linn.) Crantz.
BRASSICA NIGRA (Linn.) Koch.
BRASSICA SINAPISTRUM Boiss.
BURSA BURSA-PASTORIS (Linn.) Weber.
LEPIDIUM VIRGINICUM Linn.
LEPIDIUM CAMPESTRE (Linn.) R. Br.
RAPHANUS SATIVUS Linn.

CAPPARIDACEÆ.

CLEOME SPINOSA Linn.

DROSERACEÆ.

DROSERA ROTUNDIFOLIA Linn.

CRASSULACEÆ.

SEDUM PULCHELLUM Michx.
SEDUM NEVII A. Gray.
SEDUM TERNATUM (Haw) Michx.
SEDUM TELEPHIOIDES Michx.
SEDUM TELEPHIUM Linn.
PENTHORUM SEDOIDES Linn.

SAXIFRAGACEÆ.

ASTILBE BITERNATA (Vent.) Britton. *A. decandra* Don.

SAXIFRAGA VIRGINIENSIS Michx.

SAXIFRAGA PENNSYLVANICA Linn.

SAXIFRAGA MICRANTHIDIFOLIA (Haw) B. S. P.

THEROFON ACONITIFOLIUM (Nutt.) Millsp. Fl. W. Va. 361 (1892).

TIARELLA CORDIFOLIA Linn.

MITELLA DIPHYLLA Linn.

HEUCHERA VILLOSA Michx.

HEUCHERA AMERICANA Linn.

HEUCHERA RUGELII Shuttlw.

PARNASSIA GRANDIFOLIA DC.

HYDRANGEA ARBORESCENS Linn.

HYDRANGEA ARBORESCENS KANAWHANA Millsp. Fl. W. Va. 363 (1892).

Low straggling bush, leaves small, paler beneath, acuminate, somewhat cordate at the base; cymes very open and branching, marginal radiant flowers many, 1 in. broad, fertile flowers nearly glabrous, smaller than in the species. Along the Little Kanawha River from Kanawha Station to Glenville. (*Millspaugh*).

RIBES CYNOSBATI Linn.

RIBES ROTUNDIFOLIUM Michx.

RIBES PROSTRATUM L'Her.

RIBES FLORIDUM L'Her.

HAMAMELIDACEÆ.

HAMAMELIS VIRGINICA Linn.

LIQUIDAMBAR STYRACIFLUA Linn.

PLATANACEÆ.

PLATANUS OCCIDENTALIS Linn.

ROSACEÆ.

PRUNUS AMERICANA Marsh.

Randolph Co., near Pickens (*Millspaugh*). (*Nuttall*).

PRUNUS ANGUSTIFOLIA Marsh. *P. Chicasa* Michx.

PRUNUS PENNSYLVANICA Linn. f.

PRUNUS VIRGINIANA Linn. (*Nuttall*).

PRUNUS SEROTINA Ehrh.

OPULASTER OPULIFOLIUS (Linn.) O.K.

SPIRÆA CORYMBOSA Raf. *S. betulæfolia* Pall.

SPIRÆA VIRGINIANA Britton, Bull. Torr. Club, 17, 314 (1890).

"A glabrous shrub, the branches forming long wands, erect or reclining, 1 to 4 ft. long. Leaves oblong or slightly oblanceolate, thin, obtuse or short-pointed at the apex, rounded or cuneate at the base, 1.5 to 2 in. long, 5 to 8 lines wide, green above, pale beneath, entire or with a few low serrations in the upper half; petioles 2 lines long; pedicels and peduncles pale and glaucous; flowers about 2 lines broad, in terminal compound corymbs 1 to 3 in. across; calyx teeth 5, triangular, blunt, about the length of the short-campanulate tube, distinctly glaucous; petals 5, white ovate-orbicular, obtuse; stamens 15 to 20, persistent; styles 5 to 6; follicles, in the specimens examined, 5 to 6, apparently sterile, included in the persistent calyx."

"On damp rocks along the Monongahela river, Morgantown, West Virginia, collected by Dr. C. F. Millspaugh in flower, June 20, 1890, and in apparently imperfect fruit late in September. Collected also by Mr. G. R. Vasey in the mountains of North Carolina, 1878."

"*Spiræa betulæfolia*, Pall, and *S. corymbosa*, Raf., have much longer follicles exerted beyond the calyx; broader, thicker and dentate leaves, and are different in habit. Rafinesque published a number of species in his New Flora, but none of them can apply to this one."

Spiræa salicifolia Linn. (*Nuttall*).

SPIRÆA TOMENTOSA Linn. (*Nuttall*).

ULMARIA RUBRA Hill. *Spiræa rubra* Britton.

ARUNCUS ARUNCUS (Linn.) Karst. *Spiræa Aruncus* Linn.

PORTERANTHUS TRIFOLIATUS (Linn.) Britton. *Gillenia trifoliata* Linn. Greenbrier Co., on Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

PORTERANTHUS STIPULATUS (Muhl.) Britton. *Gillenia stipulacea* Nutt.

RUBUS ODORATUS Linn.

RUBUS ODORATUS COLUMBIANUS Millsp. Fl. W. Va., 356 (1892).

Leaves thin, ample, 5 to 7 incised almost to the petiole, divisions oblong-lanceolate, long and taper pointed, sharply and mostly double-serrate. Inflorescence smaller and more compact than in the species. Fruit also smaller and of a more decided musky flavor. Monongalia Co., cool woods of Tibb's Run (*Millspaugh*).

RUBUS STRIGOSUS Michx.

RUBUS OCCIDENTALIS Linn.

RUBUS VILLOSUS Ait.

RUBUS VILLOSUS FRONDOSUS Torr.

RUBUS BAILEYANUS Britton. *R. villosus humifusus* T. & G.

RUBUS MILLSPAUGHI Britton, Bull. Torr. Club, 18:366 (1891).

"Ascending, wand-like, entirely unarmed or with a very few weak prickles above, glabrous throughout or the younger shoots scurfy pubescent. Stems one and one-half to four meters long; leaves long petioled, pedately 5-foliate or some of those on the twigs 3-foliate; leaflets thin, oval, glabrous on both sides, long-acuminate at the apex, mostly rounded at the base, 12 to 15 cm. long, about 5 cm. wide, sharply, but not deeply serrate; stock of the terminal leaflet 7 to 10 cm. long; inflorescence loosely racemose; bracts linear-lanceolate, acuminate; fruit black, about 10 mm. long" (*Millspaugh*).

"Nearest to *R. villosus*, but evidently a distinct species. Curiously enough there is a leaf of this species glued down on the sheet of *R. Canadensis*, L. in herb Linn., and it appears to have been included in his description of that species—the specimens of which were furnished by Kalm."

Near the summit of Point Mountain in Randolph County at an altitude of 3,500 ft., also along the Gandy in great profusion. Pendleton and Pocahontas, on Little Rich Mountains abundant. The mountaineers claim that it is upon this species that the bears grow fat for their period of hibernation, the fruit being late to ripen and very nutritious.

Mr. John K. Small remarks in his Studies of the Botany of the Southeastern United States, Bull. Torr. Club, 21:19 (1894) in reporting this species: "Grows on the walls of the cañon at Tallulah Falls, Ga. Collected in flower in April, 1893; alt. 1,600 ft. This most likely locates the southern limit of the geographical range of *R. Millspaughi*. Being a typical high mountain species, it is not to be expected much below 1,600 feet, and just south of the above-mentioned locality the Blue Ridge 'runs out' into the plains. Further south the land decreases gradually in altitude until the gulf is reached. According to my observations the above plant thrives most vigorously at altitudes ranging from 4,500 to 6,000 ft. It grows well at lower elevations, but never in such a prolific manner." Mr. Small and Anna M. Vail also give in their "Report of the Botanical Exploration of Southwestern Virginia, 1892," the following additional localities for this species: "Above Fox Creek, on Pine Mountain in deep woods, alt. 3,000 ft. Summit and slopes of Mt. Rodgers, alt. 4,000 to 5,719 ft. Summit of White Top Mountain, alt. 5,678 ft. Slopes and summit of White Rock Mountain, alt. 3,000 to 4,400 ft."

The species was also collected by Mr. T. H. Kearney, Jr., at the summit of Thunderhead (about 6,500 ft.), and on Chilhowee Mountain (at about 1,500 ft.), in Blount Co., Tennessee. Reports of the collection of the species in the mountains of North Carolina, New Hampshire, and northern Michigan have been made.

The species is reported as common in thickets at Wilton and Southport, Maine (*Fernald*), and at Deering, Maine (*Blankinship*).

RUBUS CANADENSIS Linn.

RUBUS CANADENSIS RORIBACCUS Bailey, Am. Gard., 11: 642 (1890).

Dry hillsides, Randolph Co., near Beverly. "Plant larger and stronger than the species; leaflets broad below, usually triangular-ovate, doubly serrate with small teeth, and more or less notched and jagged; peduncles longer, straighter and stouter, habituously more numerous and more conspicuously overtopping the leaves; flowers very large (sometimes two inches across); sepals uniformly larger, some of them much prolonged and leaf-like and conspicuously lobed (sometimes becoming an inch long and wide); fruit much larger."

RUBUS HISPIDUS Linn.
RUBUS TRIVALIS Michx.
DALIBARDA REPENS Linn.
GEUM CANADENSE Jacq.
GEUM VIRGINIANUM Linn. (*Nuttall*).
GEUM VERNUM (Raf.) T. & G.
WALDSTEINIA FRAGARIOIDES (Michx.) Tratt.
FRAGARIA VIRGINIANA Duchesne.
FRAGARIA VESCA Linn.
FRAGARIA INDICA Andr.
POTENTILLA MONSPELIENSIS Linn. *P. Norvegica* Linn.
POTENTILLA CANADENSIS Linn. *P. Canadensis simplex* T. & G.
AGRIMONIA STRIATA Michx. *A. Eupatoria* Linn.
AGRIMONIA PARVIFLORA Soland.
SANGUISORBA CANADENSIS Linn. *Poterium Canadense* A. Gray.
ROSA CAROLINA Linn. (*Nuttall*).
ROSA HUMILIS Marsh.
ROSA LUCIDA Ehrh. *Rosa humilis lucida* Best.
ROSA RUBIGINOSA Linn.
ROSA CANINA Linn.
PYRUS CORONARIA Linn.
PYRUS ANGUSTIFOLIA Ait.
ABRONIA ARBUTIFOLIA (Linn.) Ell. *Pyrus arbutifolia* Linn. f.
ABRONIA NIGRA (Willd.) Britton. *Pyrus melanocarpa* Hook.
SORBUS AMERICANA Marsh. *Pyrus Americana* DC.
CRATEGUS SPATHULATA Michx.
CRATEGUS CORDATA Ait.
CRATEGUS OXYACANTHA Linn.
CRATEGUS APIIFOLIA (Marsh.) Michx.
CRATEGUS COCCINEA Linn.
CRATEGUS MOLLIS (T. & G.) Scheele.
CRATEGUS TOMENTOSA Linn.
CRATEGUS PUNCTATA Jacq.

Large trees, of the form with bright yellow fruit, plentiful on Channel Ridge, Randolph Co. (*Millspaugh*).

CRATEGUS CRUS-GALLI Linn.
CRATEGUS FLAVA Ait. *C. flexispina* Sarg.
CRATEGUS FLAVA PUBESCENS A. Gray. *C. flexispina pubescens* Sarg.
CRATEGUS UNIFLORA Moench.
Crategus rotundifolia (Ehrh). Bork.

Greenbrier Co., on Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

AMELANCHIER CANADENSIS (Linn.) Medic.

LEGUMINOSÆ.

BAPTISIA TINCTORIA (Linn.) R. Br.

BAPTISIA VILLOSA (Walt.) Nutt.

BAPTISIA AUSTRALIS (Linn.) R. Br.

LUPINUS PERENNIS Linn.

MEDICAGO SATIVA Linn.

MEDICAGO LUPULINA Linn.

MELILOTUS OFFICINALIS (Linn.) Lam.

MELILOTUS ALBA Lam.

TRIFOLIUM ARVENSE Linn.

TRIFOLIUM PRATENSE Linn.

TRIFOLIUM REPENS Linn.

Trifolium Virginicum Small, Mem. Torr. Club, 4:112 (1894) Tab. 75.

Perennial from a large and long root, diffusely branched from the summit of the root; branches 2 to 4 cm. long, strictly prostrate, pubescent; leaves 3-foliate, petiole 4 to 8 cm. long; leaflets linear, linear-lanceolate or oblanceolate, 1 to 4 cm. long, acute or cuspidate, serrate-dentate, glabrous above, more or less silky beneath, conspicuously veined; sepals ovate, conspicuous; inflorescence in terminal, globose heads, about 2.5 cm. in diameter; flowers whitish, more or less crowded on slender pedicels, .2 to .4, standard emarginate-mucronate, striate; calyx clothed with long silky hairs, the teeth subulate, nearly half the length of the corolla. Pods and seeds not seen.

Growing on the rocky slopes of Kate's Mountain, Greenbrier Co., in company with *Clematis ovata*.

This species is most closely related to *T. stoloniferum* by its flower, but in all other respects it differs from that and all the other eastern American species.

TRIFOLIUM HYBRIDUM Linn.

TRIFOLIUM AGRARIUM Linn.

TRIFOLIUM PROCUMBENS Linn.

CRACCA VIRGINIANA Linn. *Tephrosia Virginiana* Pers.

Webster Co. on an "island" in Upper Glade (*Millspaugh*).

ROBINIA PSEUDACACIA Linn.

ROBINIA HISPIDA Linn.

ASTRAGALUS CAROLINIANUS Linn.

Astragalus distortus T. & G.

Since the publication of the Preliminary Catalogue, Dr. Gamble has succeeded in securing fruits of this species, reported generically only in that work. This is the farthest eastern extension of the species, which ranges, according to the manual, from Illinois to Iowa, Missouri, Kansas and Texas.

STYLOSANTHES BIFLORA (Linn.) B. S. P.

STYLOSANTHES HAMATA (Linn.) Britton.

MEIBOMIA NUDIFLORA (Linn.) O. K. *Desmodium nudiflorum* DC.

MEIBOMIA GRANDIFLORA (Walt.) O. K. *Desmodium grandiflorum* DC.

MEIBOMIA ROTUNDIFOLIA (Michx.) O. K.* *Desmodium rotundifolium* DC.

MEIBOMIA OCHROLEUCA (M. A. Curtiss) O. K. *Desmodium ochroleucum* M. A. Curtis.

MEIBOMIA CANESCENS (Linn.) O. K. *Desmodium canescens* DC.

MEIBOMIA BRACTEOSA (Michx.) O. K. *Desmodium cuspidatum* Hook.

MEIBOMIA DILLENII (Darl.) O. K. *Desmodium Dillenii* Darl.

MEIBOMIA PANICULATA (Linn.) O. K. *Desmodium paniculatum* DC.

MEIBOMIA CANADENSIS (Linn.) O. K. *Desmodium Canadense* DC.

MEIBOMIA RIGIDA (Ell.) O. K. *Desmodium rigidum* DC.

MEIBOMIA OBTUSA (Muhl.) O. K. *Desmodium ciliare* DC.

MEIBOMIA MARILANDICA (L.) O. K. *Desmodium Marilandicum* Britt.

MEIBOMIA LINEATA (Michx.) O. K. *Desmodium lineatum* DC.

LESPEDEZA REPENS (L.) Bart.

LESPEDEZA FRUTESCENS (L.) Britton. *L. Stuvei intermedia* Watson. *Lespedeza reticulata* Pers.

LESPEDEZA VIOLACEA (L.) Pers.

LESPEDEZA VIRGINICA (L.) Britton.

LESPEDEZA STUVEI Nutt.

LESPEDEZA HIRTA (L.) Ell. *Lespedeza polystachya* Michx.

LESPEDEZA CAPITATA Michx.

LESPEDEZA STRIATA (Thumb.) Hook & Arn.

VICIA CAROLINIANA Walt.

Greenbrier Co., Kate's Mountain White Sulphur Springs, alt. 3,000 ft. (*Small & Vail*).

LATHYRUS VENOSUS Muhl.

Greenbrier Co., Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

FALCATA COMOSA (L.) O. K. *Amphicarpæa comosa* Ridd.

APIOS APIOS (L.) MacM. *Apios tuberosa* Moench.

PHASEOLUS POLYSTACHYUS (Linn.) B. S. P.

PHASEOLUS HELVOLUS Linn.

GLEDITSCHIA TRIACANTHOS Linn.

CASSIA MARILANDICA Linn.

CASSIA CHAMÆCHRISTA Linn.

CASSIA NICTITANS Linn.

CERCIS CANADENSIS Linn.

GYMNOCLADUS DIOICUS (Linn.) Koch. *Gymnocladus Canadensis* Lam.

GERANIACEÆ.

GERANIUM MACULATUM Linn.

GERANIUM ROBERTIANUM Linn.

GERANIUM CAROLINIANUM Linn.

OXALIDACEÆ.

OXALIS ACETOSELLA Linn. (*Nuttall.*)
OXALIS VIOLACEA Linn.
OXALIS STRICTA Linn. *Oxalis corniculata stricta* Sav.
OXALIS RECURVA Ell.

LINACEÆ.

LINUM VIRGINIANUM Linn.
LINUM STRIATUM Walt.
LINUM USITATISSIMUM Linn.

RUTACEÆ.

ZANTHOXYLUM AMERICANUM Mill.
RUTA GRAVEOLENS Linn.
PTELEA TRIFOLIATA Linn.

SIMARUBACEÆ.

AILANTHUS GLANDULOSUS Desf.

POLYGALACEÆ.

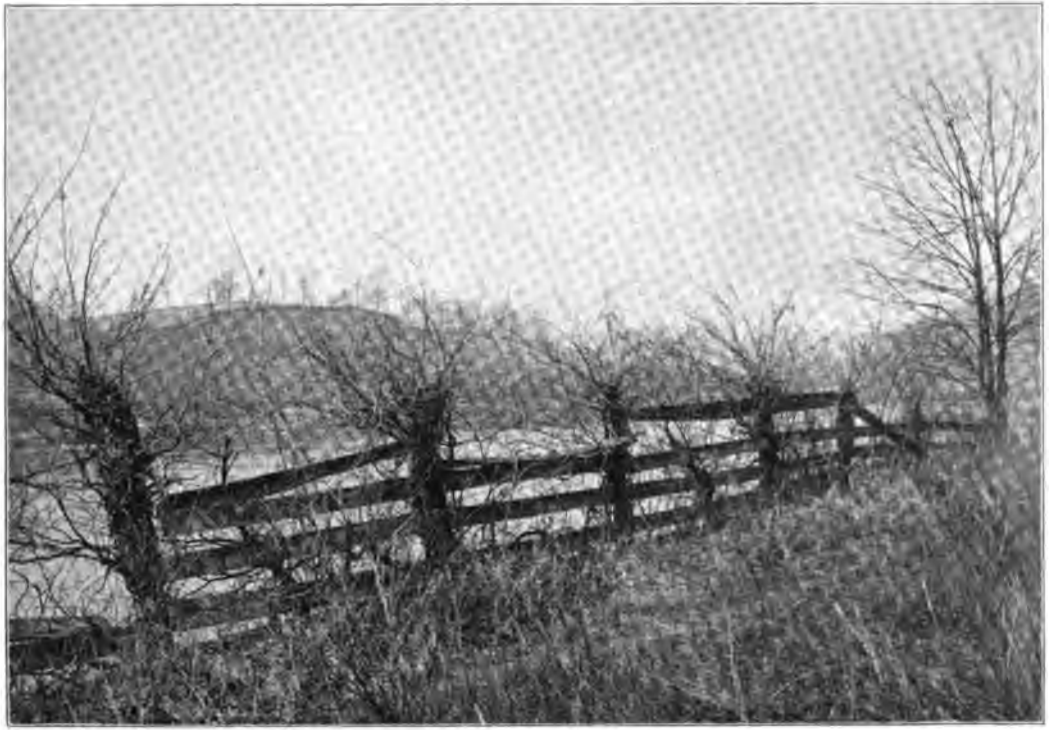
POLYGALA VIRIDESCENS Linn. *Polygala sanguinea* Linn.
POLYGALA VIRIDESCENS ALBIFLORA Wheelock. *Polygala sanguinea albiflora* Millsp.
POLYGALA MARIANA Mill.
POLYGALA CURTISSII A. Gray.
POLYGALA CRUCIATA Linn.
POLYGALA VERTICILLATA Linn.
POLYGALA AMBIGUA Nutt.
POLYGALA NUTTALLII T. & G.
POLYGALA SENEGA Linn.
POLYGALA PAUCIFOLIA Willd.
Greenbrier Co., Kate's Mountain, alt. 3,300 ft. (*Small & Vail.*)

EUPHORBIACEÆ.

EUPHORBIA GLYPTOSPERMA PUBESCENS Engelm.
EUPHORBIA MACULATA Linn.
Mineral Co., opposite Cumberland, Md. (*J. K. Small.*)
EUPHORBIA PRESLII Guss.
EUPHORBIA MARGINATA Pursh.
EUPHORBIA COROLLATA Linn.
EUPHORBIA DENTATA Michx.
EUPHORBIA DARLINGTONII Gray.
EUPHORBIA OBTUSATA Pursh.

PL. VII. RHUS RADICANS Linn.

This species completely covers a half mile of fence along the Monongahela river below Morgantown. The growth here is remarkably rich in foliage and very characteristic in all its features.



RHUS RADICANS Linn.

EUPHORBIA CYPARISSIAS Linn.

EUPHORBIA COMMUTATA Engelm.

Greenbrier Co., near White Sulphur Springs (*J. H. Redfield*).

EUPHORBIA LATHYRIS Linn.

ACALYPHA VIRGINICA Linn.

ACALYPHA VIRGINICA INTERMEDIA Muell.

[COREMA CONRADI Torr., (Empetraceæ) mentioned in Botanical Gazette, Vol. II, p. 136, as occurring near Hawk's Nest, Fayette Co., is proven by Professor James to be another species, and should therefore not yet be credited to this state.]

CALLITRICHIACEÆ.

CALLITRICHE HETEROPHYLLA Pursh.

LIMNANTHACEÆ.

FLŒRKEA PROSERPINACOIDES Willd.

ANACARDIACEÆ.

RHUS HIRTA (Linn.) Sudw. *Rhus typhina* Linn.

RHUS GLABRA Linn.

RHUS COPALLINA Linn.

RHUS VERNIX Linn. *Rhus venenata* Linn.

RHUS RADICANS Linn.

RHUS AROMATICA Ait. *Rhus Canadensis* Marsh.

AQUIFOLIACEÆ.

ILEX OPACA Ait.

ILEX MONTICOLA A. Gray.

ILEX MONTICOLA MOLLIS (A. Gray) Britton. *Ilex mollis* A. Gray.

ILEX VERTICILLATA (Linn.) A. Gray.

CELASTRACEÆ.

EUONYMUS ATROPURPUREUS Jacq.

EUONYMUS AMERICANUS Linn.

Euonymus obovatus Nutt.

E. Americanus var. obovatus T. & Gray. Of this species Rev. A. Boutlou says: "In Marshall Co., at Board Tree, Cameron, Belton, etc., this is the most common form; while the trailing rooting form I have met almost everywhere I have been in the State."

CELASTRUS SCANDENS Linn.

STAPHYLEACEÆ.

STAPHYLEA TRIFOLIA Linn.

ACERACEÆ.

ACER PENNSYLVANICUM Linn.

Although in most situations in the State this species is a mere shrub, yet near Welsh in Grant Co. it assumes the proportions of a beautiful tree 20 to 40 ft. high with a strict columnar trunk 5 to 8 inches in diameter (*Millspaugh*). Greenbrier Co., on Kate's Mountain, near White Sulphur Springs, alt. 3,300 ft. (*Small & Vail*).

ACER SPICATUM Lam.

ACER SACCHARUM Marsh.

In Randolph Co., near Pickens, the sugar maple grows to a diameter of 2 to 4 ft., and a height of 50 to 70 ft. (*Millspaugh*).

ACER NIGRUM Michx. f. *Acer saccharum* var. *nigrum* Britton.

ACER SACCHARINUM Linn.

Large trees 2 to 4 ft. in diameter in Randolph Co., near Pickens. At one station in Webster Co., on Buffalo Bull Mountain, nearly every tree of this species is of the Bird's-eye type. (*Millspaugh*).

ACER RUBRUM Linn.

ACER NEGUNDO Linn. *Negundo aceroides* Mœnch. (*Nuttall*).

HIPPOCASTANACEÆ.

ÆSCULUS GLABRA Willd.

ÆSCULUS OCTANDRA Marsh.

ÆSCULUS OCTANDRA HYBRIDA (DC.) Sarg. *Æsculus octandra purpurascens* A. Gray.

ÆSCULUS PAVIA Linn.

BALSAMINACEÆ.

IMPATIENS AUREA Muhl.

IMPATIENS BIFLORA Walt.

RHAMNACEÆ.

RHAMNUS CAROLINIANA Walt.

CEANOTHUS AMERICANUS Linn.

VITACEÆ.

VITIS LABRUSCA Linn.

An immense specimen of this grape was found in Randolph Co., near Pickens; its trunk measured 22 inches in diameter and its two main branches 8 inches each. (*Millspaugh*).

VITIS ÆSTIVALIS Michx.

VITIS CORDIFOLIA Michx.

VITIS VULPINA Linn. *Vitis riparia* Michx.

VITIS RUPESTRIS Scheele.

VITIS ROTUNDIFOLIA Michx.

PARTHENOCISSUS QUINQUEFOLIA (Linn.) Planch. *Vitis quinquefolia* Lam.
AMPELOPSIS CORDATA Michx. *Cissus Ampelopsis* Pers.

TILIACEÆ.

TILIA AMERICANA Linn.

Large growths of this species found at Pickens, Randolph Co., with trunk diameters of 26 to 38 inches, and height 60 to 100 feet. (*Millspaugh*), (*Nuttall*).

TILIA HETEROPHYLLA Vent.

One specimen cut at Nuttallburg, Fayette Co., had a diameter of 26 inches. (*Millspaugh*), (*Nuttall*).

MALVACEÆ.

ALTHÆA ROSEA Linn.
MALVA ROTUNDIFOLIA Linn.
MALVA MOSCHATA Linn.
SIDA SPINOSA Linn.
SIDA HERMAPHRODITA (Linn.) Rusby. *Sida Napæa* Cav.
ABUTILON ABUTILON (Linn.) Rusby. *Abutilon Avicenne* Gærtn.
HIBISCUS MOSCHEUTOS Linn.
HIBISCUS TRIONIUM Linn.

HYPERICACEÆ.

ASCYRUM HYPERICOIDES Linn. *Ascyrum Crux-Andreæ* Linn.
HYPERICUM PROLIFICUM Linn.
HYPERICUM DENSIFLORUM Pursh.
HYPERICUM VIRGATUM ACUTIFOLIUM Coulter.
HYPERICUM PERFORATUM Linn.
HYPERICUM MACULATUM Walt.
HYPERICUM MUTILUM Linn.
HYPERICUM CANADENSE Linn.
HYPERICUM GENTIANOIDES (Linn.) B. S. P.
HYPERICUM ADPRESSUM Barton.
HYPERICUM ELLIPTICUM Hook.
Hypericum Virginicum Linn. (*Nuttall*).

CISTACEÆ.

HELIANTHEMUM MAJUS (Linn.) B. S. P.
LECHEA MINOR Linn.
LECHEA LEGGETTII Britton & Holl.

VIOLACEÆ.

VIOLA PEDATA Linn.

Greenbrier Co., on Kate's Mountain, alt. 3,300 ft., near White Sulphur Springs (*Small & Vail*). Mercer Co., near Bluefield. MacDowell Co., at Fletcher's. (*Millspaugh*).

VIOLA PEDATA BICOLOR Pursh.
Greenbrier Co., on Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

VIOLA PALMATA Linn.

VIOLA OBLIQUA Hill. *Viola cucullata* Ait.

VIOLA SAGITTATA Ait.

VIOLA BLANDA Willd.

VIOLA PRIMULÆFOLIA Linn.

VIOLA LANCEOLATA Linn.

VIOLA ROTUNDIFOLIA Michx.

VIOLA PUBESCENS Ait.

VIOLA SCABRIUSCULA (T. & G.) Schwein. *Viola pubescens scabriuscula* T. & G.

VIOLA HASTATA Michx.

VIOLA CANADENSIS Linn.

VIOLA STRIATA Ait.

Viola Labradorica Schrank.
Viola canina var. *Muhlenbergii*, Traut. Fayette Co., at foot of cliff at Nuttallburg (*Nuttall*).

VIOLA ROSTRATA Pursh.

VIOLA TENELLA Muhl.

SOLEA CONCOLOR (Forst.) Ging.

PASSIFLORACEÆ.

PASSIFLORA LUTEA Linn.

PASSIFLORA INCARNATA Linn.

CACTACEÆ.

OPUNTIA POLYACANTHA Haw. *Opuntia vulgaris* Linn.

THYMELÆACEÆ.

DIRCA PALUSTRIS Linn.
Kanawha Co., abundant on Blue Creek (*Rev. A. Boutlou*).

LYTHRACEÆ.

CUPHÆA PETIOLATA (Linn.) Kœhne.

MELASTOMACEÆ.

RHEXIA VIRGINICA Linn.

ONAGRACEÆ.

EPILOBIUM SPICATUM Muhl.

EPILOBIUM COLORATUM Muhl.

LUDWEGIA ALTERNIFOLIA Linn.

LUDWEGIA ALTERNIFOLIA LINEARIFOLIA Britton, Bull. Torr. Club, 17: 315 (1890).

"Two or three feet high, divergently branched, the branches ascending. Leaves linear, elongated, 2 to 4 in. long, 1.5 to 4 lines wide, acute; flowers solitary in the axils of the upper leaves or bracts, yellow; sepals ovate-lanceolate acute, narrower than those of L. *alternifolia;* branches and both sides of the leaves somewhat pubescent. Petals apparently remaining on the plant longer than those of L. *alternifolia*, which, as Dr. Millspaugh observes, commonly fall away when the plant is shocked."

"Appearing very distinct from typical L. *alternifolia*, but presumably but a variety of it. From the description it may be the *Rhexia linearifolia* Poir, in Lam. Encyl. vi. 2, said to come from Carolina."

Wood Co., near Lockhart's Run. (*Millspaugh*), (*Nuttall*).

LUDWEGIA PALUSTRIS (Linn.) Ell.

ONAGRA BIENNIS (Linn.) Scop. *Œnothera biennis* Linn. *Œ. biennis grandifolia* Lindl.

ŒNOTHERA* PUMILA Linn.

ŒNOTHERA* FRUTICOSA Linn.

ŒNOTHERA* FRUTICOSA DIFFERTA Millsp. Fl. W. Va., 366 (1892).

Damp meadows, Wood Co., near Lockhart's Run, the most common form.

Stems 1 to 2 ft. high, nearly smooth, branching diffusely from every axil. Flowers profuse, large. Lower leaves ovate. Capsules narrowly winged, very short; apical inflorescence strongly cymose.

ŒNOTHERA* LINEARIS Michx. *Œnothera fruticosa* var. *linearis* Watson.

GAURA BIENNIS Linn.

CIRCÆA LUTETIANA Linn.

CIRCÆA ALPINA Linn.

ARALIACEÆ.

ARALIA SPINOSA Linn.

ARALIA RACEMOSA Linn.

ARALIA NUDICAULIS Linn.

ARALIA HISPIDA Vent.

PANAX QUINQUEFOLIUM Linn. *Aralia quinquefolia* Dec. & Pl.

UMBELLIFERÆ.

HYDROCOTYLE AMERICANA Linn.

ERYNGIUM AQUATICUM Linn.

DAUCUS CAROTA Linn.

DAUCUS CAROTA *forma* ROSEA Millsp. Fl. W. Va., 369 (1892).

ANGELICA CURTISSII Buckley.

ANGELICA VILLOSA (Walt.) B. S. P.

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*See foot note page 168.

ANGELICA ATROPURPUREA Linn.

OXYPOLIS RIGIDUS (Linn.) Britton. *Tiedemannia rigida* Coult. & Rose.

HERACLEUM LANATUM Michx.

PASTINACA SATIVA Linn.

THASPIUM TRIFOLIATUM (Nutt.) Britton. *Thaspium aureum* Nutt. *Thaspium aureum cordatum* Walt.

THASPIUM BARBINODE (Michx.) Nutt.

LIGUSTICUM CANADENSE (Linn.) Britton. *Ligusticum actæfolium* (Michx).

DEERINGIA CANADENSIS (Linn.) O.K.

ZIZIA CORDATA (Walt.) DC.

ZIZIA AUREA (Linn.) Koch.

ZIZIA BEBBII (C. & R.) Britton.

Greenbrier Co., on Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

CICUTA MACULATA Linn.

CICUTA BULBIFERA Linn.

CHÆROPHYLLUM PROCUMBENS (Linn). Crantz.

OSMORRHIZA CLAYTONI (Michx.) B. S. P.

OSMORRHIZA LONGISTYLIS (Torr.) DC.

ERIGENIA BULBOSA (Michx.) Nutt.

SANICULA MARYLANDICA Linn.

SANICULA CANADENSIS Linn.

CORNACEÆ.

CORNUS FLORIDA Linn.

Greenbrier Co., on Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

CORNUS CIRCINATA L'Her.

CORNUS AMONUM Mill. *Cornus sericea* Linn.

CORNUS CANDIDISSIMA Marsh.

CORNUS ALTERNIFOLIA Linn. f.

NYSSA AQUATICA Linn.

Nyssa salvatica Marsh. Immense growths of this species at Pickens, Randolph Co., with trunks 3 to 4 ft. in diameter. (*Millspaugh*).

CLETHRACEÆ.

CLETHRA ACUMINATA Michx.

PYROLACEÆ.

CHIMAPHILA UMBELLATA (Linn.) Nutt. *Pseva umbellata* O.K.

CHIMAPHILA MACULATA (Linn.) Pursh. *Pseva maculata* O.K.

MONESES UNIFLORA (Linn.) A. Gray. *Moneses grandiflora* Salisb.

PYROLA ELLIPTICA Nutt.

PYROLA ROTUNDIFOLIA Linn.

MONOTROPACEÆ.

Monotropa uniflora Linn.

Hypopytis Hypopytis (Linn.) Small. *Hypopytis Monotropa* Crantz.

ERICACEÆ.

Gaylussacia dumosa (Andr.) T. & G.

Gaylussacia frondosa (Linn.) T. & G.

Gaylussacia resinosa (Ait.) T. & G.

Oxycoccus macrocarpus Pers.

Oxycoccus erythrocarpus Pers. *Vaccinium erythrocarpon* Michx.

Vaccinium stamineum Linn.

Vaccinium Pennsylvanicum Lam.

Vaccinium vacillans Soland.

Vaccinium corymbosum Linn.

Vaccinium pallidum Ait. *Vaccinium corymbosum pallidum* A. Gray.

Chiogenes hispidula (Linn.) T. & G.

Gaultheria procumbens Linn.

Epigæa repens Linn.

Xolisma ligustrina (Linn.) Britton. *Andromeda ligustrina* Muhl.

Xolisma ligustrina pubescens A. Gray. *Andromeda ligustrina pubescens* A. Gray.

Pieris Mariana (Linn.) Benth & Hook. *Andromeda Mariana* Linn.

Oxydendron arboreum (Linn.) DC.

Kalmia latifolia Linn.

Kalmia augustifolia Linn.

Menziesia pilosa (Michx.) Pers. *Menziesia globularis* Salisb.

Rhododendron maximum Linn.

Rhododendron Catawbiense Michx.

Azalea arborescens Pursh. *Rhododendron arborescens* Torr.

Azalea canescens Michx. *Rhododendron canescens* Porter.
Greenbrier Co., Kate's Mountain, alt. 3,300 ft. (*Small & Vail*).

Azalea viscosa Linn. *Rhododendron viscosum* Torr.

Azalea viscosa glauca Michx. *Rhododendron viscosum glaucum* A. Gray.

Azalea viscosa nitida (Pursh.) Britton. *Rhododendron viscosum nitidum* A. Gray.

Azalea nudiflora Linn. *Rhododendron nudiflorum* Torr.

Azalea lutea Linn. *Rhododendron calendulaceum* Torr.

DIAPENSIACEÆ.

Galax aphylla Linn.

PRIMULACEÆ.

Dodecatheon Meadia Linn.

Trientalis Americana Pursh.

STEIRONEMA CILIATUM (Linn.) Baudo.

Greenbrier Co., on the mountains about White Sulphur Springs, alt. 3,200 ft. (*Small & Vail*).

STEIRONEMA LANCEOLATUM (Walt.) A. Gray.

STEIRONEMA LANCEOLATUM ANGUSTIFOLIUM (Lam.) A. Gray.

LYSIMACHIA QUADRIFOLIA Linn.

LYSIMACHIA TERRESTRIS (Linn.) B. S. P

LYSIMACHIA NUMMULARIA Linn.

NAUMBERGIA THYRSIFLORA (Linn.) Duby. *Lysimachia thyrsiflora* Linn.

ANAGALLIS ARVENSIS Linn. (*Nuttall*).

SAMOLUS FLORIBUNDUS H. B. K. *Samolus Valerandi floribundus* B. S. P.

EBENACEÆ.

DIOSPYROS VIRGINIANA Linn.

STYRACEÆ.

MOHRODENDRON CAROLINUM (Linn.) Britton. *Halesia tetraptera* Linn.

OLEACEÆ.

FRAXINUS AMERICANA Linn.

Fine specimens of very large growth in Randolph Co., especially on Channel ridge where the species grows very tall, and at Pickens where specimens were measured from 3 to 6 ft. in diameter. (*Millspaugh*).

FRAXINUS PENNSYLVANICA Marsh. *F. pubescens* Lam.

FRAXINUS LANCEOLATA Borck. *F. viridis* Michx. f.

FRAXINUS NIGRA Marsh. *F. sambucifolia* Lam.

CHIONANTHUS VIRGINICA Linn.

LIGUSTRUM VULGARE Linn.

LOGANIACEÆ.

CYNOCTONUM MITREOLA (Linn.) Britton. *Mitreola petiolata* T. & G.

GENTIANACEÆ.

SABBATIA ANGULARIS (Linn.) Pursh.

GENTIANA QUINQUEFOLIA Linn.

GENTIANA ANDREWSII Griseb.

GENTIANA SAPONARIA Linn.

GENTIANA LINEARIS Frœl.

OBOLARIA VIRGINICA Linn.

APOCYNACEÆ.

APOCYNUM ANDROSÆMIFOLIUM Linn.

APOCYNUM CANNABINUM Linn.

APOCYNUM CANNABINUM PUBESCENS (R. Br.) A. DC.

ASCLEPIADACEÆ.

ASCLEPIAS TUBEROSA Linn.

ASCLEPIAS RUBRA Linn.

ASCLEPIAS PURPURASCENS Linn.

ASCLEPIAS VARIEGATA Linn.

ASCLEPIAS INCARNATA Linn.

ASCLEPIAS PULCHRA Ehrh. *Asclepias incarnata pulchra* Pers.

ASCLEPIAS SYRIACA Linn. (*Nuttall.*)

ASCLEPIAS EXALTATA (Linn.) Muhl.

ASCLEPIAS QUADRIFOLIA Jacq.

ACERATES VIRIDIFLORA (Raf.) Eaton.

VINCETOXICUM GONOCARPUS LÆVIS (Michx.) Britton. *Gonolobus lævis* Michx.

CONVOLVULACEÆ.

IPOMŒA COCCINEA Linn.

IPOMŒA HEDERACEA Jacq.

IPOMŒA PURPUREA (Linn.) Roth.

Mineral Co., opposite Cumberland, Md. (*J. K. Small*).

IPOMŒA PANDURATA (Linn.) Meyer.

IPOMŒA LACUNOSA Linn.

CONVOLVULUS SPITHAMÆUS Linn.

CONVOLVULUS SEPIUM Linn. (*Nuttall*).

CONVOLVULUS REPENS Linn. *C. sepium repens* A. Gray.

CUSCUTACEÆ.

CUSCUTA EPITHYMUM Murr. *C. Trifolii* Weihe.

CUSCUTA GRONOVII Willd.

CUSCUTA GLOMERATA Choisy.

POLEMONIACEÆ.

Phlox paniculata Linn. (*Nuttall*).

PHLOX PANICULATA ACUMINATA (Pursh.) Chapm.

PHLOX MACULATA Linn.

PHLOX AMŒNA Sims.

PHLOX REPTANS Michx.

PHLOX SUBULATA Linn.

Greenbrier Co., dry, stony ledges on Kate's Mountain alt. 3,300 ft. (*Small & Vail*).

POLEMONIUM REPTANS Linn.

POLEMONIUM VAN BRUNTIÆ Britton. *P. cæruleum* Linn.

HYDROPHYLLACEÆ.

HYDROPHYLLUM MACROPHYLLUM Nutt.

HYDROPHYLLUM VIRGINICUM Linn.

HYDROPHYLLUM CANADENSE Linn.
HYDROPHYLLUM APPENDICULATUM Michx.
PHACELIA BIPINNATIFIDA Michx.
PHACELIA PURSHII Buckley.
PHACELIA DUBIA (Linn.) Small. *P. parviflora* Pursh.

BORAGINACEÆ.

CYNOGLOSSUM OFFICINALE Linn.
CYNOGLOSSUM VIRGINICUM Linn.
LAPPULA VIRGINIANA (Linn.) Greene. *Echinospermnm Virginicum* Lehm.
MERTENSIA VIRGINICA (Linn.) DC.
ONOSMODIUM CAROLINIANUM (Lam.) A. DC.
MYOSOTIS PALUSTRIS (Linn.) Relh.
SYMPHYTUM OFFICINALE Linn.
LITHOSPERMUM ARVENSE Linn.
LITHOSPERMUM LATIFOLIUM Michx.
LITHOSPERMUM CANESCENS (Michx.) Lehm.
ECHIUM VULGARE Linn.

VERBENACEÆ.

VERBENA OFFICINALIS Linn.
VERBENA URTICÆFOLIA Linn.
VERBENA HASTATA Linn.
VERBENA ANGUSTIFOLIA Michx.
LIPPIA LANCEOLATA Michx.
PHRYMA LEPTOSTACHYA Linn.

LABIATÆ.

ISANTHUS BRACHIATUS (Linn.) B. S. P.
TEUCRIUM CANADENSE Linn.
COLLINSONIA CANADENSIS Linn.
PERILLA FRUTESCENS NANKINENSIS (Lour.) Britton. *P. ocymoides crispa* Benth.
MENTHA SPICATA Linn. *M. viridis* Linn.
MENTHA PIPERITA Linn.
MENTHA SATIVA Linn.
MENTHA CANADENSIS Linn.
LYCOPUS VIRGINICUS Linn.
LYCOPUS SINUATUS Ell.
CUNILA ORIGANOIDES (Linn.) Britton.
KOELLIA FLEXUOSA (Walt.) Britton.
KOELLIA VERTICILLATA (Michx.) O. K. *K. Torreyi* Benth.
KOELLIA CLINIPODIOIDES (T. & G.) O. K.

KŒLLIA PYCANTHEMOIDES (Leavenw.) O. K. *K. Tullia* Benth.
KŒLLIA INCANA (Linn.) O. K.
KŒLLIA MONTANA (Michx.) O. K.
HEDEOMA PULEGIOIDES (Linn.) Pers.
CLINOPODIUM VULGARE Linn. *Calamintha Clinopodium* Benth.
MELISSA OFFICINALIS Linn.
SALVIA LYRATA Linn.
MONARDA DIDYMA Linn.
MONARDA FISTULOSA Linn. *M. fistulosa mollis* Benth.
MONARDA MEDIA Willd. *M. fistulosa rubra* A. Gray.
BLEPHILIA HIRSUTA (Pursh.) Torrey.
VLECKIA NEPETOIDES (Linn.) Raf. *Agastache nepetoides* O. K.
MEEHANIA CORDATA (Nutt.) Britton. *Cedronella cordata* Benth.
NEPETA CATARIA Linn.
GLECHOMA HEDERACEA Linn. *Nepeta hederacea* B. S. P.
SCUTELLARIA LATERIFLORA Linn.
SCUTELLARIA CORDIFOLIA Muhl. *S. versicolor minor* Chapm.
SCUTELLARIA SAXATILIS Riddell.
SCUTELLARIA SERRATA Andrews.
SCUTELLARIA INCANA Muhl. *S. canescens Nutt.*
SCUTELLARIA PILOSA Michx.
SCUTELLARIA PILOSA HIRSUTA (Short.) A. Gray.
SCUTELLARIA INTEGRIFOLIA Linn.
SCUTELLARIA PARVULA Michx.
SCUTELLARIA GALERICULATA Linn.
SCUTELLARIA GALERICULATA *forma* ALBIFLORA Millsp. Fl. W. Va. 428 (1892.)
SCUTELLARIA NERVOSA Pursh.
PRUNELLA VULGARIS Linn. *Brunella vulgaris* Linn.
PRUNELLA VULGARIS ALBIFLORA (Boggenh.) Britton.
PHYSOSTEGIA VIRGINIANA (Linn.) Benth.
MARRUBIUM VULGARE Linn.
STACHYS PALUSTRIS Linn.
STACHYS ASPERA Michx.
STACHYS ASPERA GLABRA A. Gray.
STACHYS CORDATA Ridd. (*Nuttall*).
GALEOPSIS TETRAHIT Linn.
LEONURUS CARDIACA Linn.
LAMIUM AMPLEXICAULE Linn.
TRICHOSTEMA DICHOTOMUM Linn.

SOLANACEÆ.

SOLANUM DULCAMARA Linn.
SOLANUM NIGRUM Linn.

SOLANUM CAROLINENSE Linn.
PHYSALIS PHILADELPHICA Lam.
PHYSALIS ANGULATA Linn.
PHYSALIS PUBESCENS Linn.
PHYSALIS VIRGINIANA Mill.
PHYSALIS VISCOSA Linn.
PHYSALIS LANCEOLATA Michx.
PHYSALODES PHYSALODES (Linn.) Britton.
LYCIUM VULGARE (Ait. f.) Dun.
DATURA STRAMONIUM Linn.
DATURA TATULA Linn.
PETUNIA VIOLACEA Lindl.

SCROPHULARIACEÆ.

VERBASCUM THAPSUS Linn.
VERBASCUM BLATTARIA Linn.
VERBASCUM LYCHNITIS Linn.
LINARIA LINARIA (Linn.) Karst. *L. vulgaris* Mill.

This species first appeared near Nuttallburg in Fayette Co., this year—1895 (*Nuttall*).

SCROPHULARIA MARILANDICA Linn. *S. nodosa Marilandica* A. Gray.
COLLINSIA VERNA Nutt.
CHELONE GLABRA Linn.
CHELONE OBLIQUA Linn.
PENTSTEMON HIRSUTUS (Linn.) Willd.
PENTSTEMON PENTSTEMON (Linn.) Britton. *P. lævigatus* Soland.
PENTSTEMON DIGITALIS (Sweet) Nutt. *P. lævigatus Digitalis* A. Gray.
Pentstemon canescens Britton.

Slopes of Kate's Mountain, alt. 3,300 ft., near White Sulphur Springs, Greenbrier Co. (*Small & Vail*).

MIMULUS RINGENS Linn.
MIMULUS ALATUS Soland.
GRATIOLA VIRGINIANA Linn.
GRATIOLA SPHÆROCARPA Ell.
ILYSANTHES GRATIOLOIDES (Linn.) Benth.
LEPTANDRA VIRGINICA (Linn.) Nutt. *Veronica Virginica* Linn.
VERONICA ANAGALLIS AQUATICA Linn. *V. Anagallis* Linn.
VERONICA AMERICANA Schw.
VERONICA OFFICINALIS Linn.
VERONICA SERPYLLIFOLIA Linn.
VERONICA PEREGRINA Linn.
VERONICA ARVENSIS Linn.
BUECHNERA AMERICANA Linn.

DASYSTOMA PEDICULARIA (Linn.) Benth. *Gerardia Pedicularia* Linn.
DASYSTOMA VIRGINICA (Linn.) Britton. *Gerardia Virginica* Linn.
DASYSTOMA FLAVA (Linn.) Wood. *Gerardia flava* Linn.
DASYSTOMA LÆVIGATA Raf. *Gerardia lævigata* Raf.
GERARDIA TENUIFOLIA Vahl.
GERARDIA AURICULATA Michx.
CASTILLEJA COCCINEA (Linn.) Spreng.
PEDICULARIS CANADENSIS Linn. (*Nuttall*).
MELAMPYRUM LINEARE Lam.

OROBANCHACEÆ.

EPIPHEGUS VIRGINIANA (Linn.) Bart.
CONOPHOLIS AMERICANA (Linn. f.) Wallr.
THALESIA UNIFLORA (Linn.) Britton. *Aphyllon uniflorum* A. Gray.

BIGNONIACEÆ.

Bignonia crucigera Linn.

B. cupreolata Linn. Kanawha Co., rich soil between Cannelton and Brownstown, where it grows luxuriantly along the banks of the Great Kanawha River. Its evergreen foliage makes it a conspicuous feature of the winter landscape (*Rev. A. Boutlou*).

TECOMA RADICANS (Linn.) DC.
CATALPA CATALPA (Linn.) Karst. *C. Bignonioides* Walt.

Catalpa speciosa Warder.

Mason Co., banks of the Ohio River, near Point Pleasant. (*Millspaugh.*)

ACANTHACEÆ.

RUELLIA CILIOSA Pursh.
DIANTHERA AMERICANA Linn.

PLANTAGINACEÆ.

PLANTAGO MAJOR Linn.
PLANTAGO RUGELII Decne.
PLANTAGO LANCEOLATA Linn.
PLANTAGO VIRGINICA Linn.

RUBIACEÆ.

HOUSTONIA CÆRULEA Linn.
HOUSTONIA CÆRULEA *forma* ALBIFLORA Millsp. Fl. W. Va. 375 (1892).
HOUSTONIA SERPYLLIFOLIA Michx. (*Nuttall*).
HOUSTONIA PURPUREA Linn.
HOUSTONIA PURPUREA CALYCOSA A. Gray.
HOUSTONIA CILIOLATA Torr.
HOUSTONIA LONGIFOLIA Gærtn.

HOUSTONIA TENUIFOLIA Nutt.
CEPHALANTHUS OCCIDENTALIS Linn.
MITCHELLA REPENS Linn.
DIODIA TERES Walt.
GALIUM APARINE Linn.
GALIUM PILOSUM Ait.
GALIUM CIRCÆZANS Michx.
GALIUM LANCEOLATUM Torr.
GALIUM LATIFOLIUM Michx.
GALIUM TRIFIDUM Linn.
GALIUM TINCTORIUM Linn. *G. trifidum latifolium* Torr.
GALIUM CONCINNUM T. & G.
GALIUM ASPRELLUM Michx.
GALIUM TRIFLORUM Michx.

CAPRIFOLIACEÆ.

SAMBUCUS CANADENSIS Linn.
SAMBUCUS PUBENS Michx. *S. racemosa* Linn.
SAMBUCUS PUBENS ALBICOCCA Britt.
VIBURNUM ALNIFOLIUM Marsh. *V. lantanoides* Michx.
VIBURNUM ACERIFOLIUM Linn.
VIBURNUM DENTATUM Linn.
VIBURNUM NUDUM Linn.
VIBURNUM LENTAGO Linn.
VIBURNUM PRUNIFOLIUM Linn.
TRIOSTEUM PERFOLIATUM Linn.
SYMPHORICARPOS SYMPHORICARPOS (Linn.) MacM. *S. orbiculatus* Mœnch.
LONICERA DIOICA Linn. *L. glauca* Hill.
LONICERA JAPONICA Thumb.
DIERVILLA DIERVILLA (Linn.) MacM. *Diervilla trifida* Mœnch.

VALERIANACEÆ.

VALERIANA PAUCIFLORA Michx.

DIPSACEÆ.

DIPSACUS SYLVESTRIS Mill.

CUCURBITACEÆ.

CUCURBITA OVIFERA Linn.
CITRULLUS VULGARIS Schrad.
CUCUMIS MELO Linn.
MICRAMPELIS LOBATA (Michx.) Greene. *M. echinata* Raf.
SICYOS ANGULATUS Linn.

CAMPANULACEÆ.

LOBELIA CARDINALIS Linn.
LOBELIA SYPHILITICA Linn.
LOBELIA SYPHILITICA ALBIFLORA Britton.
LOBELIA PUBERULA Michx.
LOBELIA AMŒNA GLANDULIFERA A Gray.
LOBELIA LEPTOSTACHYS A.DC.
LOBELIA SPICATA Lam.
LOBELIA SPICATA PARVIFLORA A. Gray.
LOBELIA INFLATA Linn.
LOBELIA INFLATA SIMPLEX (Raf.) Millsp. Fl. W. Va. 398 (1892).
LEGOUZIA PERFOLIATA (Linn.) Britton. *Specularia perfoliata* A.DC.
CAMPANULA ROTUNDIFOLIA Linn.
CAMPANULA APARINOIDES Pursh.
CAMPANULA AMERICANA Linn.
CAMPANULA DIVARICATA Michx.

COMPOSITÆ.

ELEPHANTOPUS CAROLINIANUS Willd.
ELEPHANTOPUS TOMENTOSUS Linn.
VERNONIA GIGANTEA (Walt.) Britton. *V. altissima* Nutt
VERNONIA NOVEBORACENSIS (Linn.) Willd.
VERNONIA GLAUCA (Linn.) Britton. *V. Noveboracensis latifolia.* A. Gray.
EUPATORIUM PURPUREUM Linn.
EUPATORIUM MACULATUM AMŒNUM (Pursh.) Britton. *E. purpureum amœnum* A. Gray.
EUPATORIUM HYSSOPIFOLIUM Linn.
EUPATORIUM PUBESCENS Muhl. *E. rotundifolium pubescens* B. S. P.
EUPATORIUM ALTISSIMUM Linn.
EUPATORIUM SESSILIFOLIUM Linn.
EUPATORIUM PERFOLIATUM Linn.
EUPATORIUM AGERATOIDES Linn. f.
EUPATORIUM AROMATICUM Linn.
EUPATORIUM CŒLESTINUM Linn.
LACINARIA SPICATA (Linn.) O.K.
Lacinaria scariosa squarrulosa (Michx.) Small.
Greenbrier Co., White Sulphur Springs (*A. Brown*).
CHRYSOPSIS MARIANA (Linn.) Nutt.
SOLIDAGO FLEXICAULIS Linn. *S. latifolia* Linn.
SOLIDAGO CÆSIA Linn.
SOLIDAGO CURTISSII T. & G.
SOLIDAGO BICOLOR Linn.

SOLIDAGO MONTICOLA T. & G.

SOLIDAGO PUBERULA Nutt.

SOLIDAGO SPECIOSA Nutt.

SOLIDAGO ODORA Ait.

SOLIDAGO RUGOSA Mill.

SOLIDAGO ULMIFOLIA Muhl.

SOLDAGO BOOTTII Hook.

SOLIDAGO ARGUTA Ait.

SOLIDAGO JUNCEA Ait.

SOLIDAGO JUNCEA SCABRELLA (T. & G.) A. Gray.

SOLIDAGO JUNCEA RAMOSA Porter & Britton.

SOLIDAGO SEROTINA Ait.

SOLIDAGO SEROTINA GIGANTEA (Ait.) A. Gray.

SOLIDAGO RUPESTRIS Raf.

SOLIDAGO CANADENSIS Linn.

SOLIDAGO NEMORALIS Ait.

EUTHAMIA GRAMINIFOLIA (Linn.) Nutt. *Solidago lanceolata* Linn. (*Nuttall*).

EUTHAMIA CAROLINIANA (Linn.) Greene. *Solidago Caroliniana* Linn.

BRACHYCHÆTA SPHACELATA (Raf.) Britton. *B. Cordata* T. & G.

SERICOCARPUS ASTEROIDES (Linn.) B. S. P.

Greenbrier Co., mountains about White Sulphur Springs, alt. 3,000 ft. (*A. Brown*).

ASTER DIVARICATUS Linn. *A. corymbosus* Ait.

ASTER MACROPHYLLUS Linn.

ASTER PATENS Ait.

ASTER PATENS PHLOGIFOLIUS (Muhl.) Nees.

ASTER LÆVIS Linn.

ASTER UNDULATUS Linn.

ASTER CORDIFOLIUS Linn.

ASTER LOWRIEANUS Porter. *A. cordifolius lævigatus* Porter.

ASTER PURPURATUS Nees. *A. virgatus* Ell.

ASTER ERICOIDES Linn.

ASTER ERICOIDES DEPAUPERATUS Porter. *A. ericoides pusilus* A. Gray.

ASTER ERICOIDES PILOSUS (Willd.) Porter. *A. ericoides villosus* T. & G.

ASTER LATERIFLORUS (Linn.) Britton.

ASTER LATERIFLORUS HIRSUTICAULIS (Lindl.) Porter.

ASTER MULTIFLORUS Ait.

ASTER DUMOSUS Linn.

ASTER VIMINEUS Lam.

ASTER VIMINEUS FOLIOLOSUS (Ait.) A. Gray.

ASTER PANICULATUS Lam.

ASTER SALICIFOLIUS Ait.

ASTER NOVI-BELGII Linn.
ASTER PRENANTHOIDES Muhl.
ASTER PUNICEUS Linn.
ASTER UMBELLATUS Mill.
ASTER INFIRMUS Michx.
ASTER ACUMINATUS Michx.
ASTER TENUIFOLIUS Linn.
ASTER LINARIIFOLIUS Linn.
ERIGERON CANADENSIS Linn.
ERIGERON ANNUUS (Linn.) Pers.
ERIGERON RAMOSUS (Walt.) B. S. P.
ERIGERON PULCHELLUS Michx.
ERIGERON PHILADELPHICUS Linn.
ANTENNARIA PLANTAGINIFOLIA (Linn.) Rich.
ANTENNARIA MARGARITACEA (Linn.) Hook. *Anaphalis margaritacea* Benth & Hook.
GNAPHALIUM OBTUSIFOLIUM Linn.
GNAPHALIUM ULIGNOSUM Linn.
GNAPHALIUM PURPUREUM Linn.
INULA HELENIUM Linn.
POLYMNIA CANADENSIS Linn.
POLYMNIA CANADENSIS RADIATA A. Gray.
POLYMNIA UVEDALIA Linn.
SILPHIUM ASTERISCUS Linn.
SILPHIUM TRIFOLIATUM Linn.

Greenbrier Co., near White Sulphur Springs, alt. 3,000 ft. (*A. Brown*).

CHRYSOGONUM VIRGINIANUM Linn.
PARTHENIUM INTEGRIFOLIUM Linn.
AMBROSIA TRIFIDA Linn.

Mineral Co., opposite Cumberland, Md. (*J. K. Small*).

AMBROSIA TRIFIDA INTEGRIFOLIA (Muhl.) T. & G.
AMBROSIA ARTEMISIÆFOLIA Linn.
XANTHIUM SPINOSUM Linn.

Mineral Co., opposite Cumberland, Md. (*J. K. Small*).

XANTHIUM STRUMARIUM Linn.
XANTHIUM CANADENSE Mill.
ECLIPTA ALBA (Linn.) Hassk.
HELIOPSIS SCABRA Dunal.
HELIOPSIS HELIANTHOIDES (Linn.) B. S. P. *H. lævis* Pers.
BRAUNERIA PURPUREA (Linn.) Britton. *Echinacea purpurea* Mœnch.
RUDBECKIA LACINIATA Linn.
RUDBECKIA LACINIATA HUMILIS A. Gray.

RUDBECKIA FULGIDA Ait.
RUDBECKIA TRILOBA Linn.
RUDBECKIA HIRTA Linn.
RUDBECKIA SPECIOSA Wender.
HELIANTHUS LÆTIFLORUS Pers.
HELIANTHUS OCCIDENTALIS Riddell.
HELIANTHUS OCCIDENTALIS DOWELLIANUS T. & G.
HELIANTHUS TOMENTOSUS Michx.
HELIANTHUS GROSSE-SERRATUS Martens.
HELIANTHUS GIGANTEUS Linn.
HELIANTHUS LÆVIGATUS T. & G.
HELIANTHUS DORONICOIDES Lam.
HELIANTHUS MICROCEPHALUS T. & G. *H. parviflorus* Bernh.
HELIANTHUS DIVARICATUS Linn.
HELIANTHUS HIRSUTUS Raf.
HELIANTHUS STRUMOSUS Linn.
HELIANTHUS TRACHELIIFOLIUS Mill.
HELIANTHUS DECAPETALUS Linn.
VERBESINA OCCIDENTALIS (Linn.) Walt.
VERBESINA ALTERNIFOLIA (Linn.) Britton. *Ridania alternifolia* O. K.
COREOPSIS LANCEOLATA VILLOSA Michx.
COREOPSIS PUBESCENS Ell.
COREOPSIS AURICULATA Linn.
COREOPSIS MAJOR Walt. *C. senifolia* Michx.
COREOPSIS MAJOR ŒMLERI (Ell.) Britton. *C. senifolia stellata* T. & G.
COREOPSIS TRIPTERIS Linn.
BIDENS FRONDOSA Linn.
BIDENS CONNATA Muhl. *B. connata comosa* A. Gray.
BIDENS LÆVIS (Linn.) B. S. P.
BIDENS BIPINNATA Linn.
BIDENS TRICHOSPERMA (Michx.) Britton. *Coreopsis trichosperma* Michx.
GALLINSOGA PARVIFLORA Cav.
HELENIUM AUTUMNALE Linn.
ANTHEMIS COTULA Linn.
ANTHEMIS ARVENSIS Linn.
ACHILLEA MILLEFOLIUM Linn.
CHRYSANTHEMUM LEUCANTHEMUM Linn
MATRICARIA MATRICARIOIDES (Less.) Porter.
TANACETUM VULGARE Linn.
SENECIO VULGARIS Linn.
SENECIO AUREUS Linn.
SENECIO OBOVATUS Muhl. *S. aureus obovatus* T. & G.
SENECIO BALSAMITÆ Muhl. *S. aureus Balsamitæ* T. & G.

CACALIA SUAVEOLENS Linn.
CACALIA RENIFORMIS Muhl.
CACALIA ATRIPLICIFOLIA Linn.
ERECHTITES HIERACIFOLIA (Linn.) Raf.
ARCTIUM LAPPA Linn.
Mineral Co., opposite Cumberland, Md. (*J. K. Small*).
ARCTIUM MINUS Schk. *A. Lappa minus* A. Gray.
CARDUUS LANCEOLATUS Linn. *Cnicus lanceolatus* (Willd.)
CARDUUS ALTISSIMUS Linn. *Cnicus altissimus* Willd.
CARDUUS DISCOLOR (Muhl). Nutt. *Cnicus discolor* A. Gray.
CARDUUS VIRGINIANUS Linn. *Cnicus Virginianus* Pursh.
CARDUUS MUTICUS (Michx.) Pursh. *Cnicus muticus* Pursh.
CARDUUS ODORATUS (Muhl.) Porter. *Cnicus odoratus* Muhl.
CARDUUS ARVENSIS (Linn.) Robs. *Cnicus arvensis* Hoffm.
ADOPOGON DANDELION (Linn.) O. K.
ADOPOGON VIRGINICUM (Linn) O. K. *A. amplexicaule* O. K.
CICHORIUM INTYBUS Linn.
HIERACIUM CANADENSE Michx.
HIERACIUM PANICULATUM Linn.
HIERACIUM VENOSUM Linn.
HIERACIUM SCABRUM Michx.
HIERACIUM GRONOVII Linn.
HIERACIUM LONGIPILUM Torr.
PRENANTHES ALTISSIMA Linn.
PRENANTHES ALBA Linn.
PRENANTHES SERPENTARIA Pursh. (*Nuttall.*)
TARAXACUM TARAXACUM (Linn) Karst. *T. officinale* Webb.
LACTUCA SCARIOLA Linn.
LACTUCA CANADENSIS Linn.
LACTUCA PULCHELLA (Pursh.) DC. *L. integrifolia* Nutt.
LACTUCA HIRSUTA Muhl.
LACTUCA SPICATA (Lam.) Hitch. *L. leucophæa* A. Gray.
LACTUCA VILLOSA Jacq.
LACTUCA FLORIDANA (Linn.) Gærtn.
SONCHUS OLERACEUS (Linn.)
SONCHUS ASPER (Linn.) All.
TRAGOPOGON PORRIFOLIUS Linn.

Host Index of the Fungi.*

ABIES BALSAMEA (L.) Miller.
  Peridermium Balsameum.

ABUTILON ABUTILON (L.) Rusby. (*A. Avicenne* Gærtn.)
  Macrosporium Abutilonis.

ACALYPHA VIRGINICA L.
  Cercospora Acalyphæ.

ACER *sp.*
  Daldinia concentrica.
  Helminthosporium persistens.
  Myxosporium seriatum.
  Trametes ambigua.

ACER NEGUNDO L. (*Negundo aceroides* Mœnch.)
  Ceganella Aceris.
  Diplodia atrata.
  Fusarium sarcochroum.
  Phoma negundinicola ramicola.
  Phyllosticta *sp.*
  Tubercularia vulgaris.

ACER PENNSYLVANICUM L.
  Botryodiplodia acerina.
  Cytispora exasperans.
  Phoma Pennsylvanica.
  Phoma samararum.
  Rhytisma punctatum.

ACER RUBRUM L.
  Botryosphæria quercuum.
  Bromella Ravenelii.
  Ceganella Aceris.
  Eutypella rugiella.
  Libertella acerina?
  Phyllosticta acericola.
  Sphæronæma acerinum.
  Steganosporium piriforme.
  Valsa etherialis.
  Valsa pauperata.

*** Species habiting fallen twigs, bark, branches, trunks, logs, stumps and leaves; soil, ground, sand and rocks; and excrementitious and decaying vegetable and animal substances, etc., etc., are not included in this index.**

ACER SACCHARINUM L. (*A. dasycarpum* Ehrh.)
- Diaporthe Aceris.
- Fomes applanatus.
- Libertella acerina?
- Phyllosticta acericola.
- Scleroderris pallidula.
- Stagonospora collapsa.
- Valsa ceratophora.

ACER SACCHARUM Marsh. (*Acer saccharinum* Wang.)
- Hypoxylon fuscum.
- Pilacre Petersii.

ACTÆA ALBA (L.) Mill.
- Urocystis Anemones.

Actinomeris squarrosa see VERBESINA ALTERNIFOLIA.

AESCULUS OCTANDRA HYBRIDA (DC.) Sarg. (*Ae. octandra purpurascens* Gr.)
- Phyllosticta sphæropsidea.

AGARICUS *sp.*
- Nyctalis asterophora.
- Sporodinia Aspergillus.

AGRIMONIA STRIATA Michx. (*A. Eupatoria* L.)
- Sphærotheca Humuli.
- Uredo Agrimoniæ.

ALNUS RUGOSA (Ehrh.) Koch. (*A. serrulata* Willd.)
- Cryptospora femoralis.
- Diatrypella verruciformis.
- Eutypella stellulata.
- Glœoporus tremellosus.
- Glœosporium Alni. *sp. nov.*
- Glœosporium cylindrospermum.
- Hypoxylon fuscum.
- Phlebia radiata.
- Valsa femoralis.

AMALANCHIER CANADENSIS (L.) Medic.
- Dimerosporium Collinsii.

AMARANTHUS RETROFLEXUS L.
- Cystopus Bliti.

Ampelopsis quinquefolia see PARTHENOCISSUS QUINQUEFOLIA.

AMYGDALUS PERSICA L. (*Prunus Persica* Bth. & Hook.)
- Cytispora leucostoma.
- Cytispora Persicæ.
- Exoascus deformans.
- Monilia fructigena.
- Sterigmatocystis nigra.

Streptothryx atra.
Trichothecium roseum.
Valsa leucostoma.

ANEMONE VIRGINIANA L.
Puccinia Anemones-Virginiana.

Andromeda ligustrina see XOLISMA LIGUSTRINA.

ARALIA SPINOSA L.
Botryosphæria Araliæ.
Diaporthe Araliæ.
Eutypella densissima.
Haplosporella Araliæ.
Hypoderma commune.
Hypoxylon coccineum.
Lecanidion atratum.
Leptothyrium vulgare.
Macrosporium commune.
Nectria cinnabarina.
Nematella nucleata.
Phoma melaleuca.
Phyllosticta Araliæ.
Physarum sinuosum.
Stagonospora petiolorum.
Tubercularia vulgaris.
Valsa ambiens.
Vermicularia petiolorum.

ARCTIUM LAPPA L.
Phyllosticta Lappæ.
Vermicularia Arctii.

ARISÆMA TRIPHYLLUM (L.) Torr.
Uromyces Caladii.

ASCLEPIAS SYRIACA L. (*A. cornuti* Dec.)
Fusarium roseum.
Macrosporium asclepiadeum.
Phoma asclepiadea *sp. nov.*
Phoma *sp.*
Uromyces Howei.

ASIMINA TRILOBA (L.) Dunal.
Anthostoma microecium.
Cytispora carphosperma.
Dinemasporium hispidulum.
Dothiorella Asiminæ *sp. nov.*
Macrosporium olivaceum *sp. nov.*
Mucor Mucedo.
Phyllosticta Asiminæ.
Rosellina microecium.
Sphæropsis Asiminæ *sp. nov.*
Sphæropsis Asiminæ fructigena *var. nov.*

Tubercularia Asiminæ *sp. nov.*
Ustilago *sp.*
Valsa ambiens.

ASPARAGUS OFFICINALIS L.
Fusarium *sp.*
Gibberella Saubinettii.
Macrosporium commune.
Tilmadoche mutans.
Torula herbarum.
Vermicularia liliacearum.

Aspidium spinulosum see DRYOPTERIS SPINULOSA.

ASTER *sp.*
Thelephora sebacea.

ASTER CORDIFOLIUS L.
Coleosporium Sonchi.
Puccinia Asteris.
Septoria atro-purpurea.

ASTER INFIRMUS Mich.
Fusicladium *sp.*

AVENA SATIVA L.
Epicoccum neglectum.
Ustilago Avenæ lævis.
Ustilago segetum.

AZALEA VISCOSA L.
Sphærographum histricinum.
Pestalozzia Guepini.

BENZOIN BENZOIN (L.) Coulter. (*Lindera Benzoin* Meisn.)
Camorosporum Linderæ *sp. nov.*
Diaporthe sociata.
Diplodia Linderæ.
Phyllosticta lindericola.
Sphæropsis Linderæ.
Valsa Linderæ.

BETA VULGARIS L.
Cercospora beticola.

BETULA *sp.*
Corticium Petersii,
Hypoxylon atroviride?
Hypoxylon multiforme.
Polyporus pubescens.

BETULA LENTA L.
Gelatinosporum betulinum.
Hymenochæte corrugata.
Hymenochæte unicolor.
Polystictus hirsutus.

Poria tomento-cincta.
Septoria microsperma.
Stereum complicatum.
Stereum sericeum.
Stereum versicolor.

BETULA LUTEA Michx. f.
Discosia Artoceras.
Fomes fomentarius.
Lentinus strigosus.

BETULA NIGRA L.
Aposphæria pezizoides.
Cytispora betulina.
Glœosporium betularum.
Melanconium bicolor.
Steganosporium muricatum.

BOEHMERIA CYLINDRICA (L.) Willd.
Cercospora Boehmeriæ.

BOLETUS *sp.*
Sporodinia Aspergillus.

BRASSICA NIGRA (L.) Koch.
Cystopus candidus.
Septoria Brassicæ *sp. nov.*

BRASSICA OLERACEA L.
Botrytis vulgaris.

CARDUUS LANCEOLATUS L.
Puccinia Hieracii.
Puccinia suaveolens.

CALOPTENUS FEMUR RUBRUM (*grasshopper*).
Bacterium *sp.*
Empusa Grylli.

CAREX *sp.*
Puccinia Caricis.

CAREX FRASERI And.
Botrytis torta.
Epidochium melanochlorum?
Stachylidium caricinum.
Trichægum nodulosum.
Zygodesmus graminicola.

CARPINUS CAROLINIANA Walt.
Cytispora leucosperma.
Glœosporium Robergei.
Radulum orbiculare.
Thyrsidium hedericolum Carpini.
Xylaria flabelliformis.

Carya sp., see HIKORIA *sp.*

CASSIA MARILANDIA L.
Vermicularia Dematium.

CASTANEA DENTATA (Marsh.) Sudw. (*C. sativa Americana* Sarg.)
Coryneum pustulatum.
Cryptospora cinctula.
Diatrype Stigma.
Discosia Artoceras.
Glonium parvulum.
Lenzites corrugata.
Leptothyrium Castanæ.
Melanconis modonia.
Microsphæria Alni.
Mucronoporus Gilbus.
Peniophora quercina.
Phyllactinia suffulta.
Septoria ochroleuca.
Sphærella maculiformis.
Steganosporium Castanæ.
Stereum versiforme.
Valsa coronata.

CASTANEA PUMILA Mill.
Phyllosticta Castanæ.

CATALPA CATALPA (L.) Karst. (*Catalpa Bignonioides* Walt.)
Epicoccum neglectum.
Microsphæria elevata.
Phyllosticta Catalpæ.

CATERPILLARS.
Empusa Grylli.

CAULOPHYLLUM THALICTROIDES (L.) Michx.
Cercospora Caulophylli.
Diaporthe Gladioli?
Vermicularia compacta.

CELASTRUS SCANDENS L
Botryosphæria Hibiscii *var.*
Phyllosticta Celastri *sp. nov.*
Ramularia Celastri.
Sphæropsis celastrina.
Tubercularia Celastri.

CELTIS OCCIDENTALIS L.
Cytispora Celtidis.
Haplosporella Celtidis.
Macrosporium antennæforme.
Phyllosticta Celtidis.
Tubercularia hamata.

CEPHALANTHUS OCCIDENTALIS L.
Discosia Artoceras.

CERCIS CANADENSIS L.
- Cytispora *sp.*
- Diplodia Cercidis.
- Glœosporium *sp.*
- Phyllosticta cercidicola *sp nov.*
- Sarcinella heterospora.

CHENOPODIUM ALBUM VIRIDE (L.) Moq.
- Cercospora dubia.

CHENOPODIUM ANTHELMINTICUM L.
- Cercospora anthelmintica.
- Pyrenophora calvescens.

CHIONANTHUS VIRGINICA. L.
- Botryosphæria pyriospora.
- Cercospora Chionanthi *sp. nov.*
- Cytispora *sp.*
- Dermatea Chionanthi.
- Phyllosticta Chionanthi.
- Stagonospora *sp.*
- Valsa Chionanthi.

CICUTA MACULATA L.
- Botrytis oleracea.
- Macrosporium commune.

CIMICIFUGA RACEMOSA (L.) Nutt.
- Leptosphæria Ogilviensis.

CLEMATIS VIRGINIANA L.
- Ascochyta clematidina.

CLINTONIA UMBELLULATA (Michx.) Torr
- Vermicularia liliacearum.

Cnicus lanceolatus Willd see CARDUUS LANCEOLATUS L.

CONVOLVULUS REPENS L. (*Calystegia sepium repens* Gray.)
- Puccinia Convolvuli.
- Puccinia Convolvuli *var.*

CORNUS ALTERNIFOLIA L.f.
- Septoria cornicola.

CORNUS FLORIDA L.
- Aschersonia *sp.*
- Dædalia confragosa.
- Discosia Artoceras.
- Phyllosticta cornicola.
- Phyllosticta globifera *sp. nov.*
- Septoria Corni-Maris.
- Sporodesmium toruloides.
- Tremella virens.
- Valsa ambiens.

CORYLUS AMERICANA Walt.
  Gnomoniella Coryli.

CRATEGUS *sp.*
  Aspergillus glaucus.
  Cylindrosporium Cratægi.
  Gymnosporangium clavariiforme (*Aecid.*)

CRATEGUS OXYACANTHA L.
  Podosphæria Oxyacanthæ.

CUNILA ORIGANOIDES (L.) Britton. (*C. Mariana* L.)
  Puccinia Menthæ.

Cuphœa petiolata see PARSONSIA PETIOLATA.

DATURA STRAMONIUM L.
  Macrosporium sp.

DENDROCTONUS FRONTALIS (*Insect.*)
  Cylindrocolla Dendroctoni.

DENTARIA DIPHYLLA Michx.
  Cystopus candidus.

Desmodium paniculatum see MEIBOMIA PANICULATA.

Desmodium canescens see MEIBOMIA CANESCENS.

DIANTHUS AMERICANA L.
  Cercospora Diantheræ.

Diarrhena Americana see KORYCARPUS DIANDRUS.

DIOSCOREA VILLOSA L.
  Phyllosticta Dioscoreæ.
  Leptothyrium vulgare.

DIOSPYROS VIRGINIANA L.
  Fusarium roseum *var.*
  Macrosporium *sp.*
  Podosphæria Oxyacanthæ.
  Valsa Diospyri.

DISPORUM LANUGINOSUM (L.) Morong.
  Discosia maculicola.

DRYOPTERIS SPINULOSA (Retz.) Kuntze. (*Aspidium spinulosum* Sw.)
  Leocarpus fragilis.
  Leptostromella filicina.

ELYMUS CANADENSIS GLAUCIFOLIUS (Willd.) Torr.
  Phyllachora graminis.

EPIGÆA REPENS L.
  Discosia Artoceras.
  Erysiphe Vaccinii.

EQUISETUM ARVENSE L.
  Septosporium Equiseti.

ERECHTITES HIERACIFOLIA (L.) Raf.
  Sphærotheca Castagnei.

EUPATORIUM AGERATOIDES L.
  Cercospora ageratoides.
  Erysiphe communis.
  Puccinia tenuis.

EUPATORIUM CŒLESTINUM L.
  Puccinia conoclinii.

EUPATORIUM PURPUREUM L.
  Oidium erysiphoides.
  Erysiphe Cichoracearum.

FAGUS ATROPUNICEA (Marsh.) Sudw. (*F. ferruginea* Ait.)
  Coryne urnalis.
  Cryptosporella compta.
  Horomyces fragiformis.
  Hydnum coralloides.
  Hydnum Erinaceus.
  Lachnea scutellata.
  Libertella faginea.
  Microsphæria erineophila.
  Polystictus hirsutus.
  Scorias spongiosa.

FRAGARIA *cult.*
  Phoma obscurans.
  Ramularia Tulasnei.
  Septoria aciculosa.

FRAXINUS *sp.*
  Aposphæria pezizoides.

FRAXINUS AMERICANA L.
  Cucurbitaria Fraxini.
  Diplodia infuscans.
  Diplodia inquinans.
  Fomes applanatus.
  Hemiarcyria rubiformis.
  Hypholoma sublateritium.
  Sphærographum Fraxini.
  Sphæropsis phomatella.

FRAXINUS PENNSYLVANICA Mart. (*F. pubescens* Lam.)
  Cytispora ceratophora.
  Discosia Artoceras.
  Glœosporium aridum.

GALAX APHYLLA L.
  Asterina Leemingii.
  Dimerosporium Galactis.
  Phyllosticta Galacis.

GALIUM CIRCÆZANS Michx.
Septoria pilostega.

GAULTHERIA PROCUMBENS L.
Hypocrea tenerrima.
Sphærella Gaultheriæ.

GENTIANA ANDREWSII Griesb.
Phyllosticta gentianicola.

GEUM CANADENSE Jacq. (*G. album* Gm.)
Pestalozzia *sp.*
Phyllosticta *sp.*

Halesia tetraptera see MOHRODENDRON CAROLINUM.

HAMAMELIS VIRGINICA L.
Corticium leve.
Gonatobotryum maculiocolum.
Lecanidion Hamamelidis.
Leptosphæria Doliolum.
Phyllosticta Hamamelidis.
Phyllosticta sphæropsidea.

HELIANTHUS DECAPETALUS L.
Cylindrocolla flagellaris *sp. nov.*
Puccinia Helianthi.
Septoria Helianthi.

HEUCHERA AMERICANA L.
Septoria Saxifragæ.
Vermicularia Dematium.

HICORIA *sp.*
Corticium lilacino-fuscum.
Scoriomyces Cragini.
Sphæropsis Caryæ.
Tremella intumescens.

HICORIA MICROCARPA (Nutt.) Britton. (*Carya microcarpa.*)
Phyllosticta caryiogena.

HICORIA MINIMA (Marsh.) Britton. (*Carya amara.*)
Valsa ceratophora.

HICORIA OVATA (Mill.) Britton. (*Carya alba.*)
Corticium subgiganteum.
Cytispora caryiogena.
Dædalia unicolor.
Diplodia caryiogena.
Melanoconium pallidum.
Myxosporium luteum.
Phyllosticta caryiogena.
Polyporus adustus.
Tilmadoche gyrocephala.
Trichoderma lignorum.

HOLCUS LANATUS L.
Puccinia coronata.

HOUSTONIA CÆRULEA L.
Æcidium Houstonianum.

HOUSTONIA LONGIFOLIA Gærtn.
Æcidium Houstonianum.

HYDNUM *sp.*
Pencillium glaucum.
Stremonites fusca.

HYDRANGEA ARBORESCENS L.
Diaporthe Hydrangæ *sp. nov.*
Hypoderma commune.
Leptosphæria vagabunda.
Tilmadoche gyrocephala.

HYMENOCETUM sp.
Hypomyces rosellus.

HYPERICUM MUTILUM L.
Uromyces Hyperici.

HYPOXYLON COCCINEUM Bull.
Lasiosphæria ovina.

HYPOXYLON RUBIGINOSUM.
Isaria Virginiensis.

HYSTERIX HYSTERIX (L.) Millsp.
Phyllachora graminis.

ILEX OPACA Ait.
Diaporthe cercophora.
Diplodia ilicicola.
Fusicoccum ilicinum.
Heliscus Lugdunensis.
Hypoxylon perforatum.
Leptothyrium foraminulatum.
Leptothyrium *sp.*
Phoma ilicicola.
Phyllosticta opaca *sp. nov.*
Physalospora Ilicis.
Pilacre Petersii.

ILEX VERTICILLATA (L.) Gray.
Phyllosticta Hynaldi.
Rhytisma Prini.
Trichothecium roseum.

IMPATIENS BIFLORA Walt. (*I. fulva.*)
Septoria Nolitangere.
Æcidium Impatientis.

IPOMŒA PANDURATA (L.) Meyer.
- Botrytis vulgaris.
- Coleosporium Ipomœæ
- Pestalozzia funerea.
- Phlyctæna Ipomœæ.
- Phyllosticta Ipomœæ.
- Sphæropsis Ipomœæ.

IRIS CRISTATA Ait.
- Vermicularia liliacearum.

JUGLANS CINEREA L.
- Dasycypha virginea.
- Diplodia Juglandis.
- Exidia glandulosa.
- Glonium simulans.
- Lasiosphæria ovina.
- Marsonia Juglandis.
- Melanconium oblongum.
- Mucronoporus ferruginosus.
- Orbilia coccinella.
- Propolis Faginea.
- Pseudohelotium fibrisedum.
- Sphæeronæma infuscans *sp. nov.*
- Tapesia fusca.
- Tapesia sanguinea.
- Valsaria exasperans.

JUNIPERUS VIRGINIANA L.
- Gymnosporangium juniperinum (*Teleuto.*)
- Gymnosporangium macropus.

KALMIA LATIFOLIA L.
- Cercospora Kalmiæ.
- Dacryomyces minor.
- Hymenochæte unicolor.
- Hypocreopsis riccoidea.
- Hysterium Kalmiæ?
- Poria sinuosa.
- Rhabdospora Kalmianum.
- Septoria kalmiæcola.

KORYCARPUS DIANDRUS (Michx.) Kuntze. (*Diarrhena Americana.*)
- Phyllachora Caricis.

LACHNOCLADIUM SEMIVESTITUM.
- Aspergillus flavus.
- Aspergillus glaucus oblongisporus *var. nov.*

LACTUCA CANADENSIS L.
- Botryosporium pulchrum.
- Bremia Lactucæ.

LACTUCA HIRSUTA Muhl.
- Bremia Lactucæ.

LESPEDEZA VIOLACEA (L.) Pers.
Uromyces Lespedezæ.

Lindera Benzoin see BENZOIN BENZOIN.

LIQUIDAMBAR STYRACIFLUA L.
Aposphæria pezizoides.
Cytispora *sp.*
Grandinia crustosa.
Lophiotrema Nucula.
Monilia aureo-fulva.
Propolis faginea.
Trichia proximella.

LIRIODENDRON TULIPIFERA L.
Dendrodochium rubellum microsporum.
Dothiorella minor *sp. nov.*
Diplodia Liriodendri.
Eurotium herbariorum.
Erysiphe Liriodendri.
Leptothyrium Liriodendri.
Orbilia rubella.
Propolis faginea.
Phoma mixta.
Phyllosticta liriodendrica.
Phyllosticta macrospora.
Polystictus hirsutus.
Poria corticola.
Poria Tulipiferæ
Tubercularia vulgaris.
Valsa albopuncta *sp. nov.*

LOBELIA CARDINALIS L.
Septoria Lobeliæ.

LYCOPERSICUM ESCULENTUM L.
Fusarium Solani.
Macrosporium Tomato.

MAGNOLIA ACUMINATA L.
Dendrodochium rubellum microsporum.
Massaria Magnoliæ *sp nov.*
Phyllosticta Cookei.
Sphæronæma Magnoliæ.

MAGNOLIA FRASERI Walt.
Bombardia fasciculata.
Botrytis vulgare.
Calocera viscosa.
Cladosporium *sp.*
Collybia conigenoides.
Corticium leptaleum.
Corticium scutellare.
Diatrype platystoma.

Diatrypella verruciformis.
Discosia Artoceras.
Exidia glandulosa.
Helminthosporium macrocarpon.
Helminthosporium septemseptatum.
Hemiarcyria stipata.
Holwaya ophiobolus.
Hymenochæte corrugata.
Hypoxylon Howeanum.
Hypoxylon Nuttallii *sp. nov.*
Hypoxylon perforatum.
Irpex obliquus.
Kneiffia setigera.
Lachnella Virginica.
Leptothyrium petiolorum *var.*
Lycogala epidendrum.
Melanomma Pulvis-pyrius.
Nectria coccinea.
Nectria ditissima.
Nematella nucleata.
Orbilia Xanthostigma.
Peniophora cinerea.
Phlebia merismoides.
Phyllactinia suffulta.
Phoma pedunculi.
Physarum psittacinum.
Pilacre Petersii.
Polyporus *sp.*
Polyporus brunalis.
Poria ferruginosa.
Poria spissa.
Poria tomento-cincta.
Radulum Magnoliæ.
Stagonospora pedunculi.
Stilbum magnum.
Tapesia sanguinea.
Tilmadoche nutans.
Tilmadoche viridis.
Vermicularia subeffigurata.
Xylaria corniformis.

MEIBOMIA CANESCENS (L.) Kuntze. (*Desmodium canescens.*)
Uromyces Hedysari-paniculati.

MEIBOMIA PANICULATA (L.) Kuntze. (*Desmodium paniculatum.*)
Uromyces Hedysari-paniculati.

MENISPERMUM CANADENSE L.
Cercospora Menispermi.
Cladosporium herbarum.
Sphæropsis Menispermi.

MOHRODENDRON CAROLINUM (L.) Britton. (*Halesia tetraptera.*)
Cytispora Halesiæ.
Diaporthe Halesiæ.
Diaporthe Tetrapteræ.
Sirococcus Halesiæ.

MORUS RUBRA L.
Tubercularia *sp.*

MOSS.
Hypocrea tenerrima.
Lycoperdon pedicellatum.
Physarum citrinum.

Nasturtium Armoracia (L.) Fr. see RORIPA ARMORACIA.

NECTRIA VERRUCOSA.
Tubercularia *sp.*

Negundo aceroides see ACER NEGUNDO.

NYSSA AQUATICA L. (*N. sylvatica.*)
Phoma Nyssocarpa.
Sphærella nyssæcola.
Valsa Nyssæ.
Valsa præstans.

Œnothera biennis see next.

ONAGRA BIENNIS (L.) Scop. (*Œnothera biennis.*)
Cercospora Œnotheræ.
Leptothyrium Vulgare.
Phlyctæna arcuata.
Phlyctæna vagabunda.
Phoma herbarum.
Sphæronæma corneum.
Sphæropsis Œnotheræ *sp. nov.*
Vermicularia *sp.*

OPULASTER OPULIFOLIUS (L.) Kuntze. (*Physocarpus opulifolius.*)
Botryosphæria Quercuum.
Didymella Physocarpi.
Pestalozzia Jefferisii.
Phoma *sp.*
Phoma leucostoma.
Phoma Spirææ.
Sphæronæma Physocarpi.
Sphæropsis Physocarpi.
Sporodesmium moriforme.
Stagonospora Physocarpi.

ORANGE (*decaying.*)
Oospora fasciculata.

OSMORRHIZA CLAYTONII. (Michx.) B.S.P.
Puccinia Pimpinellæ.

OSTRYA VIRGINIANA (Mill.) Willd.
Thelephora pedicellata.
Corticium Oakesii.

OXALIS STRICTA L. (*O. corniculata stricta.*)
Microsphæria Russellii.

OXYDENDRON ARBOREUM (L.) DC.
Discosia maculicola.
Phyllosticta Oxydendri *sp. nov.*
Scleroderris pallidula.
Tympanis Oxydendri.

PARTHENOCISSUS QUINQUEFOLIA (L.) Planch. (*Ampelopsis quinquefolia.*)
Botryosphæria Quercuum.
Cercospora Ampelopsidis.
Coniothryum Fuckelii.
Periconia pycnospora.
Phyllosticta Ampelopsidis.
Sphæropsis Ampelopsidis.
Uncinula Ampelopsidis.

PESTALOZZIA GUEPINI.
Dermatea lobata.

PHASEOLUS VULGARIS L.
Cercospora columnaris.
Colletotrichum Lindemuthianum.
Uromyces appendiculatus.

PHLOX AMŒNA Sims.
Cercospora omphacodes.
Vermicularia phlogina.

PHRYMA LEPTOSTACHYA L.
Septoria Leptostachyæ.

Physocarpus opulifolius see OPULASTER OPULIFOLIUS.

PHYLLOSTICTA CARYIOGENA.
Discosia rugulosa.

PHYTOLACCA DECANDRA L.
Diaporthe aculeata.
Leptosphæria clavigera.
Macrosporium caudatum.
Periconia pycnospora.
Phlyctæna septorioides.
Phlyctæna vagabunda.
Phoma Phytolaccæ.

PICEA MARIANA (Mill.) BSP.
Fomes carneus.

Lenzites sepiaria.
Polystictus versicolor.
Scleroderma vulgare.

PINUS ECHINATA Mill. (*P. mitis.*)
Coleosporium Senecionis (*Æcid.*)
Hyphoderma Desmazieri.

PINUS RIGIDA Mill.
Amphisphæria pinicola.
Dasycypha Ellisiana.
Lophiodermium pinastri.
Pleosphæria corticola.
Stictis fimbriata.

PINUS STROBUS Linn.
Dacryomyces deliquescens.

PINUS VIRGINIANA Mill. (*P. inops.*)
Amphisphæria pinicola.
Botryosphæria Quercuum.
Corticium scutellare.
Cytispora Curreyi.
Fomes volvatus.
Mollisia pinastri.
Polystictus abietinus.
Poria Xantha.
Rosellina abietina trichota.
Speira minor.
Stictis fimbriata.
Stereum Pini.
Tremella aurantia.

PLATANUS OCCIDENTALIS L.
Aposphæria pezizoides.
Cytispora Platani.
Dacryomyces Syringæ.
Dendrophoma Therryana.
Eutypella Platani.
Glœosporium nervisequum.
Helminthosporium macrocarpon.
Hendersonia Desmazieri.
Myxosporium platanicolum.
Phoma scabra.
Rosellinia millegrana.
Stilbum flavipes.

POA PRATENSIS L.
Erysiphe graminis.
Oidium monilioides.

PODOPHYLLUM PELTATUM L.
Puccinia Podophylli.

POLYGONATUM BIFLORUM (Walt.) Ell.
Cladosporium herbarum.

POLYGONUM AVICULARE L.
Cercospora avicularis.

POLYGONUM ERECTUM L.
Uromyces Polygoni.

POLYGONUM HYDROPIPER L.
Septoria Polygonorum.

POLYMNIA UVEDALIA L.
Helotium herbarum.
Leptosphæria Doliolum.
Macrosporium *sp.*
Periconia pycnospora.
Pleurotus cyphelliformis.
Septoria Polymnæ.

POLYPORUS PERGAMENUS.
Calicium tigillare.
Cephalothecium roseum.

POLYPORUS VARIUS Fr.
Cladosporium epimyces.
Pencillium glaucum.

POLYSTICTUS VERSICOLOR.
Dactylium dendroides.

PORIA SPISSA.
Orbilia vinosa.

PORTULACCA OLERACEA L.
Cystopus Portulacæ.

POTENTILLA CANADENSIS L.
Phragmidium Potentillæ (*Uredo.*)

POTENTILLA MONSPELIENSIS L. (*P. Norvegica.*)
Mollisia Dehnii.

PRENANTHES SERPENTARIA Pursh.
Septoria Nabali.

PRUNUS *cult.* "Cherry."
Libertella faginea.
Monilia fructigena.
Plowrightia morbosa.
Podosphæria Oxyacanthæ.
Podosphæria tridactyla.
Polystictus cinnabarinus.
Volutella ciliata.

PRUNUS DOMESTICA L.
Cytispora leucostoma.

Exoascus Pruni.
Monilia fructigena.
Plowrightia morbosa.

Prunus Persica see AMYGDALUS PERSICA.

PRUNUS SEROTINA Ehrh.
Merulius ambiguus.
Polyporus nidulans.
Poria vaporaria.
Sphæropsis cerasina.

PYRUS COMMUNIS L.
Entomosporium maculatum.
Micrococcus amylovorus.

PYRUS CORONARIA L.
Gymnosporangium macropus (*Æcid.*)
Plowrightia morbosa

PYRUS MALUS L.
Fusicladium dendriticum,
Phyllosticta Pirina.
Polystictus hirsutus.
Schizophyllum commune.

QUERCUS *sp.*
Asterostoma cervicolor.
Botryosphæria Quercuum.
Chlorosplenium Schweinitzii.
Cryptospora trichospora.
Guepinia spathularia.
Hemiarcyria clavata.
Hypoxylon atroviride?
Hypoxylon stigmatum.
Nummularia punctulata.
Rosellinia corticium.
Stereum pustulosum.
Stereum versicolor.

QUERCUS ALBA L.
Bactridium flavum.
Coryne urnalis.
Fomes applanatus.
Hemiarcyria rubiformis.
Hemiarcyria clavata.
Lachnella erinaceus.
Lachnea scutellata.
Marsonia Martini.
Merulius tremellosus.
Merulius rubellus.
Phyllosticta phomiformis.
Polystictus versicolor.
Schizophyllum commune.
Stereum sulphuratum.

QUERCUS PALUSTRIS DuRoi.
Erysiphe quercina.
Fomes applanatus.
Lycoperdon pyriforme.
Trichopeziza capitata.

QUERCUS PRINUS L.
Botryodiplodia *sp.*
Cyathicula quisquillaris.
Marsonia Martini.
Phyllosticta phomiformis.
Phyllosticta Quercus-Prini.
Polyscytalum sericeum.
Pseudovalsa sigmoidea.
Stereum complicatum.

QUERCUS RUBRA L.
Fomes applanatus.
Leptothyrium dryinum.

QUERCUS VELUTINA Lam. (*Q. tinctoria.*)
Marsonia Martini.

RESEDA ODORATA L.
Cladosporium herbarum fasciculare.
Pyrenopeziza lacerta.

RHODODENDRON CATAWBIENSE Michx.
Pestalozzia Guepini.

RHODODENDRON MAXIMUM L.
Exobasidium Rhodedendri.
Grandinia crustosa.
Heliotium castaneum.
Hypocrea Virginiensis.
Hypoxylon colliculosum.
Lophiodermium Rhododendri.
Pestalozzia Guepini.
Sporocybe Azaleæ.
Stereum triste.
Tremella frondosa.

RHUS COPALLINA L.
Aponectria inaurata.
Calospora aculeans.
Polyporus pocula.
Sporocybe Rhois.
Stereum sericeum.

RHUS HIRTA (L.) Sudw. (*R. typhina*)
Calospora aculeans.
Calospora Rhoina.
Cladosporium herbarum.
Cytispora Rhoina.
Cytispora Rhois-hirtæ *sp. nov.*

Irpex lacteus.
Myxosporium Rhois.
Polyporus adustus.
Sphæropsis Sumachi.
Sporocybe Rhois.
Torula dimidiata.
Tubercularia vulgaris.

RHUS RADICANS L. (*R. toxicodendron.*)
Cylindrosporium Toxicodendri.
Macrosporium commune.
Pestalozzia Toxica.
Phyllosticta roicola.
Uromyces Terebinthi.
Vermicularia Toxica *sp. nov.*

RIBES *cult.*
Phyllosticta Ribis *sp. nov.*

ROBINIA PSEUDACACIA L.
Cladosporium epiphyllum.
Cladosporium nigrellum.
Cucurbitaria elongata.
Cytispora coccinea.
Cytispora orthospora.
Diaporthe oncostoma.
Dothiorella glandulosa.
Epicoccum Duriæanum.
Eutypella stellulata.
Fomes rimosus.
Hypoxylon rubiginosum.
Libertella *sp.*
Nectria ditissima.
Rosellinia subiculata.
Tubercularia vulgaris.
Vermicularia petiolorum.

RORIPA ARMORACIA (L.) Hitch. (*Nasturtium Armoracia.*)
Cercospora Armoraciæ.

ROSA *cult.*
Actinonema Rosæ.
Oidium leucoconium.

ROSA HUMILIS Marsh.
Phragmidium subcorticium.
Phyllosticta Rosæ.

RUBUS BAILEYANUS Britt. (*R. villosus humifusus.*)
Hypoderma virgultorum.
Scleroderris rhabarbarina.

RUBUS CANADENSIS L.
Cercospora Rubi.

Cercospora septorioides *sp. nov.*
Phyllosticta *sp.*
Septoria Rubi.

RUBUS *cult.*
Botryosphæria Quercuum *var.*
Diplodia Rubi.
Hainesia Rubi.

RUBUS HISPIDUS L.
Uredo (*Cæoma*) nitens.

RUBUS ODORATUS L.
Diaporthe rostellata.
Oidium erysiphoides.
Pericornia pycnospora.
Pyrenopeziza lacerata.
Vermicularia compacta.

RUBUS STRIGOSUS Michx.
Glœosporium rubicolum *sp. nov.*
Glœosporium venetum

RUBUS VILLOSOS Ait.
Diaporthe obscura.
Teichospora nitida.
Uredo (*Cæoma*) nitens.

RUMEX ACETOSELLA L.
Coniosporium harknessioides.

RUMEX OBTUSIFOLIUS L.
Glœosporium Rumicis *sp. nov.*
Macrosporium commune.

SALIX NIGRA Marsh.
Corticium salicinum.
Cytispora Salicis.
Diplodia Salicina.
Melampsora farinosa.
Trimmatostroma Americana.

SALIX NIGRA FALCATA Torr.
Aposphæria pezizoides.
Hendersonia Lirella.
Lophidium compressum.

SAMBUCUS CANADENSIS L.
Cercospora despazeoides.
Corticium scutellare.
Microsphæria Grossulariæ.
Phyllosticta Sambuci.

SAMBUCUS PUBENS Michx. (*S. racemosus.*)
Tubercularia Sambuci.
Tubercularia vulgaris.

SANGUINARIA CANADENSIS L.
  Glœosporium Sanguinariæ.
  Phyllosticta Sanguinariæ

SAPONARIA OFFICINALIS L.
  Macrosporium Saponariæ.

SASSAFRAS SASSAFRAS (L.) Karst. (*S. officinale.*)
  Athostoma microplacum.
  Colletotrichum *sp.*
  Cytispora Sassafras *sp. nov.*
  Discosia Artoceras.
  Glonium stellatum.
  Hypoxylon Sassafras.
  Phyllosticta Sassafras.
  Sphæropsis Sassafras.
  Valsa subclypeata.

SCLERODERMA VULGARE.
  Boletus parasiticus.

SCROPHULARIA MARILANDICA L.
  Septoria Scrophulariæ.

Smilacina racemosa see VAGNERA RACEMOSA.

SMILAX *sp.*
  Myicoporon Smilacis.

SMILAX GLAUCA Walt.
  Cercospora smilacina.
  Puccinia Smilacis (*Uredo.*)

SMILAX ROTUNDIFOLIA L.
  Cercospora Smilacis.
  Discosia maculicola.
  Phoma smilacina.
  Phyllosticta Smilacis subeffusa.

SOLANUM TUBEROSUM L.
  Phytophthora infestans.

SOLIDAGO CANADENSIS L.
  Coleosporium Solidaginis.

SPERGULA ARVENSIS L.
  Peronospora obovata.

SPHÆROPSIS ASIMINÆ.
  Macrosporium olivaceum.

STEREUM *sp.*
  Hypomyces aurantinus.

TARAXACUM TARAXACUM (L.) Karst. (*Taraxacum officinale* Web.)
  Puccinia Hieracii.
  Ramularia Taraxaci.

TECOMA RADICANS (L.) DC.
Physalospora *sp.*
Septoria Tecomæ.

THALICTRUM POLYGAMUM Muhl.
Leptostroma vulgare.

TIARELLA CORDIFOLIA L.
Puccinia Heuchera.

TILIA HETEROPHYLLA Vent.
Hercospora Tiliæ.

TILIA AMERICANA L.
Phyllosticta Tiliæ.

TRAUTVETTERIA CAROLINENSIS (Walt.) Vail. (*T. palamata.*)
Botrytis vulgaris.
Pericornia *sp.*
Sarcinella heterospora.
Septoria Trautvetteriæ.
Vermicularia *sp.*

TRIFOLIUM PRATENSE L.
Uromyces Trifolii.

TRIFOLIUM REPENS L.
Polythrincium Trifolii.

TRIOSTEUM PERFOLIATUM L.
Cladosporium Triostei.

TRITICUM VULGARE L.
Fusarium culmorum.
Hymenula cerealis.
Puccinia Rubigo-vera.
Tilletia Tritici.
Ustilago segetum.

TSUGA CANADENSIS Carr.
Coryneum cupulatum.
Corticium albo-flavescens.
Corticium ochraceum.
Cytispora Curreyi.
Dacryomyces stellatus.
Dacryomyces corticioides.
Fomes lucidus.
Fomes pinicola.
Lenzites abietina.
Lenzites sepiaria *forma.*
Leocarpus fragilis.
Lindbaldia effusa.
Merulius Molluscus.
Microcera erumpens.
Odontia farinaceum.

Otidea onotica ochracea.
Panus dorsalis.
Peridermium Peckii.
Polystictus abietinus.
Sphærella conicola
Sporodesmium *sp.*
Stereum sangiunolentum.
Tapesia fusca.
Tremellodon gelatinosum.
Valsa Abietis.

ULMUS PUBESCENS Walt. (*U. fulva.*)
Corticium incarnatum.
Dothidella Ulmiæ.
Mucronoporus Everhartii.
Nectria vulpinia?
Phyllosticta Ulmi?

UREDO (*Cæoma*) NITENS.
Tuberculina persicina.

VAGNERA RACEMOSA (L.) Morong. (*Smilacina racemosa.*)
Septoria Smilaciniæ.
Vermicularia liliacearum.

VERBENA URTICÆFOLIA L.
Septoria Verbenæ.

VERNONIA NOVEBORACENSIS (L.) Willd.
Cercospora oculata.
Cercospora Vernoniæ.
Coleosporium Sonchi.
Coleosporium Vernoniæ.
Ophiobolus porphyrogonus.
Ophiobolus fulgidus.
Phlyctæna vagabunda.

VIOLA BLANDA Willd.
Puccinia Violæ (*Uredo.*)

VIOLA HASTATA Michx.
Puccinia Violæ (*Æcid.*)

VIOLA OBLIQUA Hill. (*V. cucullata.*)
Cercospora granuliformis.
Cercospora Violæ.

VIOLA PRIMULÆFOLIA L.
Septoria hyalina.

VIOLA ROTUNDIFOLIA Michx.
Puccinia Violæ (*Uredo.*)

VIOLA SAGITTATA Ait.
Septoria Violæ.

VITIS *sp.*
Asterostoma corticolum.
Botryosphæria Quercuum.
Corticium Petersii.
Diplodia viticola.
Phialea virgultorum.
Valsa Vitis.

VITIS ÆSTIVALIS Michx.
Phyllosticta Labruscæ.

VITIS CORDIFOLIA Michx.
Phyllosticta Labruscæ.
Saccidium Vitis *sp. nov.*
Uncinula Americana.

VITIS *cult.* "Concord."
Dermatella viticola.
Lophidium nitidum.
Phoma uvicola.
Phyllosticta Labruscæ.
Uncinula Ampelopsidis.

VITIS LABRUSCA L.
Plasmopara viticola.

VITIS RUPESTRIS Scheele.
Phyllosticta Labruscæ.
Trematosphæria vitigena *sp. nov.*

WEEDS (*in shade.*)
Arcyria cinerea.

XANTHIUM CANADENSE Mill.
Botrytis vulgaris.
Erysiphe Cichoracearum.

XANTHORRHIZA APIIFOLIA L'Her.
Phyllosticta Xanthorrhizæ *sp. nov.*
Vermicularia Dematium.

XOLISMA LIGUSTRINA (L.) Britton. (*Andromeda ligustrina.*)
Rhytisma decolorans.

YUCCA FILAMENTOSA L.
Coniothyrum concentricum.
Macrosporium caudatum.
Vermicularia subeffigurata scapincola.

ZEA MAYS L.
Colletotrichum lineola.
Coniophora *sp.*
Diplodia Maydis.
Helminthosporium folliculatum.
Leptosphæria orthogramma.

Macrosporium Maydis.
Ophiobolus acuminatus.
Puccinia Sorghi (*Teleut.*)
Ustilago Maydis.

ZIZIA CORDATA (Walt.) DC.
Oidium erysiphoides.

Local Plant Names.*

BEE-WEED	Aster Lowrieanus
BLUE DEVIL	Echium vulgare
BLUE-STEM	Echium vulgare
BLUE THISTLE	Echium vulgare
BLUE-WEED	Echium vulgare
BLISTER PINE	Abies balsamea
BROOM SEDGE	Andropogon scoparius
BUCK-HORN PLANTAIN	Plantago lanceolata
BULL'S-EYE	Chrysanthemum Leucanthemum
CATAWBA	Catalpa Catalpa
COLIC-ROOT	Asarum Canadense
COON-ROOT	Sanguinaria Canadensis
CROWD-WEED	Brassica sinapistrum. Lepidium campestre
CUCKLE-BURR	Xanthium Canadense
CUT-PAPER	Papirius papyrifera
DEER'S-TONGUE	Panicum clandestinum
DEVIL'S FLAX	Linaria vulgaris
DEVIL'S GRANDMOTHER	Elephantopus tomentosus
DEVIL'S GRASS	Chondrilla juncea
DEVIL'S IRON-WEED	Lactuca pulchella
DEVIL'S PLAGUE	Daucus Carota
DEVIL'S-WEED	Lactuca Canadensis
DOG BURR	Cynoglossum officinale
EVE'S THREAD	Hemerocallis fulva
FALL ASTER	Aster Lowrieanus
FAREWELL SUMMER	Aster lateriflorus hirsuticaulis
FEATHER GRASS	Holcus lanatus
FEDERAL-WEED	Xanthium spinosum
FIRE CHERRY	Prunus Pennsylvanica
GIPSY-WEED	Veronica officinalis
GLADE LILY	Lilium Philadelphicum

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*The significations of most of these names are given in the "Preliminary Flora," or in "Weeds of West Virginia."

GLENN PEPPER	Lepidium campestre
GLENN-WEED	Lepidium campestre
HIVE VINE	Meibomia rotundifolia
HOG BITE	Chondrilla juncea
HUTTON-WEED	Dipsacus sylvestris
IMPUDENT LAWYER	Linaria vulgaris
INDICATOR	Botrychium Virginianum
KILL COW	Eleocharis tenuis
KRAUT-WEED	Brassica sinapistrum
NAIL ROD	Aster lateriflorus hirsuticaulis
NAKED-WEED	Chondrilla juncea
NIGGER HEAD	Rudbeckia hirta
OLD FIELD SWEET	Aster lateriflorus hirsuticaulis
OLD VIRGINIA STICK-WEED	Aster lateriflorus hirsuticaulis
OLD WHITE-TOP	Holcus lanatus
PINK BLOOM	Sabbatia angularis
POPPLE	Populus tremuloides
POVERTY GRASS	Eleocharis tenuis. Juncus tenuis
QUEEN-WEED	Pastinaca sativa
QUILL-WORT	Eupatorium purpureum
RAMPS	Allium tricoccum
RIPPLE	Plantago lanceolata
RADICAL-WEED	Solanum Carolinense
RED-WEED	Rumex acetosella
RHEUMATISM-WEED	Apocynum Canadense
SEEDY BUCKBERRY	Xolisma ligustrina
SEEDY DEERBERRY	Vaccinium corymbosum
SHERIFF PINK	Chrysanthemum Leucanthemum
SHITTIM WOOD	Mohrodendron Carolinum
SHOO FLY	Baptisia tinctoria
SINK-FIELD	Potentilla Canadensis
SKELETON-WEED	Chondrilla juncea
SPRUCE PINE	Picea Mariana
STICK-WEED	Aster Lowrieanus
ST. JOHN	Hypericum perforatum
TAR-WEED	Parsonsia petiolata
TOBACCO-WEED	Elephantopus tomentosus
WALLINK	Veronica Americana
WATER THISTLE	Dipsacus sylvestris
WHITE SPRUCE	Picea Mariana
WHITE TOP	Erigeron annuus
WILD BEET	Œnothera fruticosa

WILD COTTON	Apocynum cannabinum
WILD SWEET POTATO	Ipomœa pandurata
WIRE-WEED	Aster lateriflorus hirsuticaulis
WOOL-MAT	Cynoglossum Virginicum
YELLOW DAISY	Rudbeckia hirta
YELLOW LIN	Magnolia acuminata
YELLOW TIP	Solidago juncea
YEW PINE	Picea Mariana

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CONTRIBUTION II
TO THE
COASTAL AND PLAIN FLORA
OF
YUCATAN.

BY

CHARLES FREDERICK MILLSPAUGH, M. D.
Curator, Department of Botany.

CHICAGO, U. S. A.
December, 1896.

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Second Contribution to the Coastal and Plain Flora of Yucatan.

CHARLES F. MILLSPAUGH, M.D.

That portion of Yucatan considered in these contributions is peculiar in its biologic characters, differing essentially from the surrounding region, especially in its flora. Here all plants have a desiccated appearance due to their struggle against drought, while in the neighboring areas the wealth of exuberant vegetation is marked. The cause is readily understood when we note the great difference that exists between the orographic characters of the peninsula and those of the neighboring countries—Honduras, Guatemala, Chiapas and Tabasco. In Chiapas there are numerous mountain chains of considerable altitude formed of igneous and sedimentary rocks; in Yucatan this character is entirely absent; the great undulous plains being of calcareous formation, simply and slightly inclined toward the north, their surfaces studded with a vast multitude of mere hillocks and depressions. In Tabasco, Guatemala and Honduras true mountains exist. Passing from Belize, after having crossed the boundary Rio Hondo, one climbs two broad but not very high ridges, reaching the first plateau of the central table-land whereon is situated the village of Teaiché at 160 meters above the sea level. The second plateau about Ixconconal has an altitude of 250 meters, the highest plain in the region. Descending to the neighborhood of Halatun (120 met.) one reaches the low lands about Iturbide (110 met.) and Yaxha (100 met.), and after passing down to other ridges of less altitude but considerable breadth one reaches the city of Tikul (25 met.) and the low lands that extend over the whole northern and eastern portion of the peninsula, the region embraced in these contributions.

This peculiar orographic difference between the peninsula and its neighboring states is more than equaled by the hydrographic conditions. While all the bordering country is well watered by large living streams, many of them navigable for long distances inland, the plains of Yucatan have no surface water whatever, the porosity of the coralline floor being in nearly all parts so great that whatever rain falls quickly filters into cavities, caverns and faults beneath the surface. It is on this account that throughout the region the only residual supply of water available to vegetation is held in the peculiar sartenejas, aguadas and cenotes.

The sartenejas (Maya, Akalché) are depressions in the floor of the plain, of various sizes, and from a few ounces to several hogsheads capacity, at the bottom of which sufficient marly soil has been formed to retain such water as falls into them. These soon dry up after the rainy season, and their vegetation lies dormant. The aguadas are simply larger sartenejas, usually of circular outline and from 50 to 100 feet in diameter. These retain stagnant water and maintain a growth of mud plants, such as sedges, flags and the like, throughout the year. The cenotes (Maya Ɔonot.*) are deep perpendicular-walled, nearly circular wells, penetrating the floor of the plain and opening into an abundant supply of clear cool water, saturated with carbonate of lime. These cenotes are from a few feet to a hundred yards or more in diameter, and from 30 to 200 feet deep to the water level, their frequence and extent proving that this great plain is as freely watered far below its surface as most countries are above. The interesting sartenejas are rare, though they are said to be frequent in the forests of the south and southwestern regions where the undulation of the plain is more pronounced, they may rightfully be termed the only water supply to the vegetation of the peninsula, though the cenotes assist somewhat in the mists that arise from them during the night, and in the crevices leading to their waters through which creep the roots of the larger trees near by.

These conditions having been ever present in the geological history of this great plain, it is doubtful if there ever has been more forest or low vegetation than at present. Its plants are not therefore adapting themselves to changed conditions of moisture, but having come into such existing conditions are attempting to correlate themselves with their surroundings.

The year 1895, in which the principal collections here catalogued were made, was the driest period known on the peninsula for over half a century. During that year the dry season, usually a period of four months, was extended to nine, leaving but three months of partial rain. Dr. Gaumer reports that on this account many plants did

---

*The inverted letter Ɔ is pronounced in Maya *tz*.

not bloom at all, and many that did flower never came to fruit. His collection, however, contained about 600 numbers, obtained mostly in the neighborhood of Izamal, in the interior, and at the town and port of Silam, on the northern coast. This collection so far as classified, forms the basis of this publication, which also includes a century of medicinal plants communicated for determination by Prof. H. H. Rusby of New York, having been collected by one of his pharmaceutical students, Sr. Porfirio Valdez of Merida*; a collection made by the author at Progreso, Merida, and Tikul in 1887; and a few plants of the Allison V. Armour Expedition of 1895 that had not been satisfactorily determined at the time of the first contribution.

The complete set was taken to the Gray Herbarium and there compared with the collections of that institution. The arduousness of this work was materially lessened by the many kindnesses of the director, Prof. B. L. Robinson, and of his staff, Mr. J. M. Greenman, Mr. Merritt L. Fernald, and Miss Day, to each of whom, together with the specialists credited in the body of this publication, the hearty thanks of the author are due.

As in the first contribution all species not before credited to the region, appear in black-face type. Species in small capitals are those re-discovered. The Yucatec and Spanish vulgarisms appear in italics, the Maya in black face. Plant numbers in the body type are those of Dr. George F. Gaumer, 1895. This contribution adds one hundred and twenty genera, and two hundred and seventy-two species to our knowledge of the flora of the peninsula, of which one genus and thirteen species are new.

From the serial plant numbers of Dr. Schott during the Yucatan portion of his Central American trip, it is evident that he collected at least 900 plants in this region. These plants were deposited in the herbaria of London and Washington, where they were distributed without specific classification or study, and only appear now and then in the works of special monographers. As his plants are of vital interest to our work, they are being searched for and embodied in these contributions as found.

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*The economic characters of the Valdez collection will be published by the author in one of the botanical monthlies.

MAYA NAMES.

The Maya language appears to be mainly based upon imitation of sounds. This is particularly true in names given to animals, and somewhat so in plant appellations, the latter are, in most instances however, descriptive of evident characters, odors or uses.

The Maya literal sounds are substantially as follows:

A	like *a* in f*a*ther.	J	like *h* in *h*otel.
B	like *p* in la*p*.	K	hard as in *K*ate.
C	hard as in *c*rate.	O	long as in d*o*te.
D	like *t*.	U	like *oo* in b*oo*t.
E	like *a* in f*a*te.	X	like *sh* in *sh*ow.
H	nearly silent before consonants.	Y	like *e* in *e*ar.
I	like *e* in b*ee*.	Z	like *s* in *S*usan.

Ɔ like *tz*.

All sounds tend to the deep laryngeal, extended to considerable length.

PRONUNCIATION.

Uɔupek=Uutz-uu-pake.
Xtuhuy=Shtew-uue.
Xniɔox=Shnee-tzosh.
Xmuch-coc=Shmooch-coke.
Pim=Peem.
Lab=Lahp.

Plants Collected by Dr. George F. Gaumer in 1885, Sr. Porfirio Valdez in 1896, and the Author in 1887 and 1895.

FUNGI.*

Agaricus Yucatanensis, E. & E., sp. nov. (Plate VIII).

On decaying vegetable matter, 4 inches high, ashen gray. Izamal, common, Aug. (788).

Psalliota. Pileus 4 to 5 cm. diameter, thin, buff color, sulcate-striate from the margin half-way to the convex disk which is clothed with small, innate, darker-colored permanent scales. Lamellæ moderately crowded, thin, a little over 1 mm. wide, margins entire, attenuate-free. Stipe slender, 5 to 6 cm. high, 2 to 3 mm. thick, attenuated above. Ring medial, narrow. Spores brown, ovate-elliptical, about 7 x 4 μ.

The brown spores alone separate this from *Lepiota.*

Aspergillus flavus, Lk.

On various plants that were allowed to remain too long in plant press without changing driers.

Aspergillus fuliginosus, Peck?

On leaves of Epidendrum sp.

Asterina Yucatanensis, E. & E., sp. nov. (Plate IX).

On living leaves of Pterocarpus sp.

Amphigenous, but mostly epiphyllous, on suborbicular indefinite yellowish spots 3 to 4 mm. diam. When occurring on the lower surface of the leaf, then mostly without spots, in scattered patches of irregular outline 1 or more cm. across. Perithecia convex-hemispherical, 110 to 130 μ diam., subastomous, black, of fibrous texture, suboblong, fringed with a black, reticulated mycelium and bearing more or less abundantly, brown, septate, bristle-like hairs, 50 x 3 μ. Asci oblong-elliptical 40 to 50 x 20 to 25 μ, short stipitate or sessile, 8-spored. Sporidia oblong-elliptical, uniseptate in the middle and deeply constricted, dark brown, 20 to 2 x 8 μ.

Glœosporium affine, Sacc.

On leaves of Epidendrum sp.

Macrophoma Surinamensis (B. & C.).

On leaves of Epidendrum sp.

---

*Determined by Mr. J. B. Ellis.

Pencillium glaucum Lk.

This cosmopolitan species was found plentiful in the interior of the apparently perfect and impenetrable ligneous shells of *Jacquinia armillaris* fruits.

Pestalozzia Coccolobæ E. & E., sp. nov. (Plate IX).

On leaves of Coccoloba uvifera, port of Silam, Apr.

Amphigenous, on reddish-brown orbicular spots 2 to 5 mm. diameter, whitening out, sometimes confluent and marginal. Acervuli subcuticular, erumpent, black. Conidia obovate-elliptical, 15 to 18 x 7 μ, faintly 3-septate, not constricted; end cells subhyaline, middle cells opaque, upper cell deciduous leaving the spore truncate. Crest naked or with 1 to 4 spreading bristles about 12 μ long.

This differs from the allied *P. Guepini* Desm., in its shorter, broader sporules.

CHLOROPHYCEÆ.

Microspora amœna (Keutz) Roben, *vide Miss Josephine E. Tilden.* **Xkomha.**

Common in water storage tanks at Izamal, Jan. to Dec. (571).

CHARACEÆ.

Chara gymnopus inconstans A. Br., *vide Dr. T. F. Allen.*

Abundant in cenotes near Izamal, March (434).

Near *forma crugeriana* A. Br., with slight differences.

HEPATICÆ.

Fruillania ericoides Nees.? *vide Prof. L. M. Underwood.*

On trees in brush and forest lands, uncommon, Izamal (339).

MUSCI.*

Cryphæa filiformis (Lev.) Mitt.

Common in the brush and forest about Izamal (320).

Hypnum sp.

Common in brush and forest lands near Izamal (340).

Octoblepharum albidum Hedw.

Abundant at the port of Silam, April (665).

Thuidium involvens (Hedw.) Mitt.

Common on rocks at the cenote of Xcholac (560).

FILICINÆ.†

ADIANTUM TRICHOLEPIS Fee. *Culantrillo.*

Common in shady places, 8 to 18 inches high, Izamal, Aug. to Jan. (386). Near Merida (*Valdez 64*).

---

* Determined by Mrs. E. G. Britton.

† Determined by Mr. Geo. E. Davenport.

ANEMIA ADIANTIFOLIA Swz.
On big mound at Izamal, uncommon, July to Jan. (372).

Dryopteris patens Swz. *Culantrillo blanco.*
Common in moist places near Merida (*Valdez 19*).

ASPLENIUM PUMILUM Swz.
On rocks at Xcholac, frequent, March (543).

Cheilanthes microphylla Swz.
About the cenotes near Izamal, frequent, March (533).

Pellæa aspera Baker. *Helecho.*
Common in dry places near Merida (*Valdez 65*).

POLYPODIUM LYCOPODIOIDES Linn. **Xnabooooo.**
Trailing 10 feet in old fields near Izamal, Sept. to Oct. (528).

LYCOPODINÆ.

Selaginella longispicata Underw. sp. nov. (Plate X.) **Xmuch-coc.**
Stems densely cæspitose, hygrometric, 10–13 cm. long, with the leaves about 4 mm. wide, pinnately branched above, simple in the lower half; dark green both sides or becoming brownish red below with age; leaves of the lower plane closely placed on both the main stem and its branches, obliquely ovate, margined with buff, minutely serrulate, cuspidate, imbricate nearly half their width; leaves of the upper plane nearly as large, margined, strongly ciliate throughout, long cuspidate, usually with a curved keel above when dry; leaves of both planes firm and rigid; spikes solitary at the ends of the principal branches, 2.5 cm. long, square, the bracts minutely serrulate and strongly keeled.

Easily distinguished from the other members of the § Rosulatæ by the solitary and greatly elongate spikes.

Forest lands near Izamal, not common (825).

Also collected in sterile condition "at the base of the eastern hills, where it encrusts fissures in the larger rocks" (*Valdez 50*).

GRAMINÆ.*

Andropogon Halepensis Sibth. *Sacate Paraná.*
Commonly cultivated near Izamal, June (720).

Andropogon Nardus L. *Sacate de Limon.*
Commonly cultivated at Merida (*Valdez 43*).

Anthephora elegans Schreb.
Along fences and in sheltered places near Izamal, not common, 16 inches high, June to Jan. (314).

Cynodon Dactylon Pers.
Frequent at Izamal, 1 foot high, April (683).

---

* Determined by Prof. F. Lamson Scribner.

ELEUSINE INDICA Gærtn.
Common in gardens as a weed, 5 to 10 inches high, Izamal, Jan. to Dec. (461).

ERAGROSTIS CILIARIS Link.
Very abundant along roadsides near Izamal, 6 inches high, July to March (356). On open lands 10 inches high (312).

Eragrostis Mexicanus Link.
Common in open lands near Izamal, 12 to 14 inches high, June to Jan. (313).

Leptochloa mucronata Kth.
Common on old fields about Izamal, 3 feet high, Sept. (853).

Monanthochloë littoralis Engelm.
Abundant at the port of Silam, 2 feet high, April (624).

Panicum sp. **Xkanchim.**
Common on old fields near Izamal, 2 feet high, Sept. (854).
Apparently a new form in the section *Ichnanthus*. Not matched in the Natl. Herb., nor described, as far as examined at this time.

Panicum brevifolium Kth.
Common in small limestone caves in the brush and forest about Izamal, 4 feet high, Jan. to Dec. (522).

Panicum colonum Linn.
Common in old fields about Izamal, 16 inches high, Sept. (850).

Panicum divaricatum ———— var.?
Common in waste places about Izamal, 4 feet high, July (878).

Panicum fuscum Swtz.
On old fields near Izamal, Sept. (854 in part).

Panicum insulare G.F.W.Mey.
Frequent at the port of Silam, 3 feet high, April (675.)

PANICUM SANGUINALE Linn.
Roadsides near Izamal (251, 301 in part).

Paspalum paniculatum Linn.
Common on old fields about Izamal, 30 inches high, Sept. (852.)
Apparently a small form of the species. No counterpart in the Natl. Herb.

Setaria flava Kth.
Abundant in old fields near Izamal, 2 feet high, June to Dec. (756).

Setariopsis Scribn. gen. nov.
Tribe *Paniceæ*. Spikelets ovate, articulated with the pedicels, in rather densely flowered, more or less interrupted, subspicate panicles. Glumes four, the first three membranaceous, the fourth chartaceous or subcoriaceous. First glume much shorter

than the others, 5- to 7-nerved; second glume a little shorter than the third, 11- to 13-nerved, very broadly ovate, cordate or auriculate at the base, obtuse; third glume narrower and a little longer than the second, 11-nerved, somewhat lyre-shaped at the base, the margins becoming somewhat coriaceous at maturity, palea short, hyaline; fourth or uppermost glume ovate, apiculate or short-mucronate pointed, striate or transversely rugose; palea similar in texture to the glume. Stamens three; stigmas plumose.—Annuals with rather slender, branching culms, flat leaves. Primary and secondary branches of the narrow subspicate terminal panicles prolonged beyond the spikelets into slender awn-like bristles. Species 2, Mexico and Central America.

The awn-like prolongation of the branches in this genus is a character which is not uncommon in the genus *Panicum*, particularly in the section *Ptychophyllum*, and the conformation of the glumes suggests a relationship with *P. gibbum* Ell. From *Setaria* this genus is distinguished by the awns which subtend the spikelets being only prolongations of the supporting branches, the many-nerved outer glumes, the peculiar formation or shape of the third glume and the distinctly apiculate or mucronate-pointed fourth glume.

Setariopsis auriculata (Fourn.) Scribn. nom. nov.

Setaria auriculata Fourn. Mex. Plant. Enum., Gram. 43.
Setaria pauciseta Vasey Bull. Torr. Bot. Club, XIII, p. 230.

Culms slender. 1 to 2 feet high, branching below, slightly compressed, pubescent at the nodes with appressed hairs, otherwise smooth; sheaths striate compressed, smooth or minutely strigose-pubescent, ciliate on the margins and pubescent at the apex; ligule a short string of hairs, leaf blade lanceolate, 5 to 7 inches long, 2 to 6 lines wide, long-acuminate-pointed and tapering towards the base, minutely pubescent on both surfaces, becoming smooth with age. Panicle 3 to 5 inches long, the primary branches .25 to 1 inch long, scabrous as are the main axis and pedicels, the awn-like continuations of the branches 3 to 6 lines long. Spikelets 1.5 line long, very short pedicelled, fruiting glume nearly one-fourth shorter than the second and third glumes, transversely rugose. Common on old fields about Izamal, Sept. (849). *No. 592 A. Schott* (1865); Alamosa, Mexico (*684 E. Palmer*, 1880); Southwestern Chihuahua, Mexico (*78 E. Palmer*, 1885); Oaxaca, Mexico, vicinity of Cuicatlan, alt. 1,800 to 2,500 feet (*Nos. 1601, 1701 E. W. Nelson*, 1894). The numbers here cited are in the National Herbarium.

[**Setariopsis latiglumis** (Vasey) Scribn. nom. nov. (Plate XI).

Setaria latiglumis Vasey Bull. Torr. Bot. Club, XIII, 229 (1886).

Similar in habit to *S. auriculata*, but more slender, with smooth or very minutely scabrous leaves, narrower and more densely flowered panicles, whose main axis and branches are rather densely papillate-pilose. The spikelets are larger (2 lines long), and the glumes broader, the fourth glume is less rigid and apparently smooth.

Southwestern Chihuahua, Mexico (*No. 117a E. Palmer*, 1885); near Tuxtla, Chiapas, Mexico, alt. 2,400 to 2,800 feet, (*No. 3083 Nelson*, 1895.)*]

Sporobolus minutiflorus Link.

Near Izamal, Sept. (891). Mexico, 1890 (*Pringle 3130, Liebman, 707*).

CYPERACEÆ.†

Cladium Germanicum Schrad.

C. mariscus R. Br. Abundant on the margins of cenotes, 12 feet high, Izamal, March (436).

Cyperus canus J. & C. Presl.

Common on the borders of cenotes near Izamal, 3 feet high, March (483).

Cyperus ochraceus Vahl.

Abundant on open lands near Izamal, July to Dec. (388).

Eleocharis capitata R. Br.

Abundant on the margins of the shallower cenotes, 1 foot high, Izamal, Jan. to Dec. (424).

Scirpus lacustris Linn.?

Abundant on the margins of the shallower cenotes, 8 feet high, Izamal, Feb. to March (423).

PALMÆ.

COCOS NUCIFERA Linn. *Coco.*

Tree 50 to 100 feet high, cultivated at Izamal, Jan. to Dec. (373).

LEMNACEÆ.

Wolffia Braziliensis Wedd, *vide Edmund. P. Sheldon.* **Yximha.**

Common in water storage tanks at Izamal, March to August (570).

BROMELIACEÆ.

AECHMEA BRACTEATA (Sw.) Mez.

Bromelia Sw. Near Merida. (*Schott 891*). Mez. C., Bromel., DC. Monogr. Phaner. 9: 1896.

[AECHMEA LAXIFLORA Benth.

Not included in Mez. C., Bromel. DC. Monogr. Phaner. 9: 1896, as having been collected by Schott in Yucatan. The correctness of including species on page 12 is therefore open to doubt.]

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*This species comes near our peninsular range, and may yet be found in this flora. C.F.M.

†Determined by Prof. N. L. Britton.

BROMELIA PINGUIN Linn. **H-mam. Chom.**
Uncommon, in forests about Izamal; 6 feet high, flowers light blue. May (691). Plentiful in woodlands about Merida (*Valdez 82*).

BROMELIA SYLVESTRIS Willd.
Near Merida (*Schott 893*). Mez. C., Bromel. DC. Monogr. Phaner. 9: 1896.

TILLANDSIA BALBISIANA Schult.
Yucatan loc. ignot. (*Schott 894*). Mez. C., Bromel., DC. Monogr. Phaner. 9: 1896.

TILLANDSIA CIRCINNATA Schl.
Near Merida (*Schott 250*). Mez. C., Bromel., DC. Monogr. Phaner. 9: 1896.

TILLANDSIA DASYLIRIIFOLIA Baker.
Near Merida (*Schott 288*). Mez. C., Bromel., DC. Monogr. Phaner., 9: 1896.

Tillandsia fasciculata Sw. **Chuc.**
Abundant on trees near Izamal, 18 inches high; flowers bright royal-purple. March (422).

TILLANDSIA FASCICULATA LATISPICA Mez.
Yucatan loc. ignot. (*Schott 435*). Mez. C., Bromel., D.C. Monogr. Phaner., 9: 1896.

[TILLANDSIA FILIFOLIA, Cham. & Schl., noted in Contrib. I, p. 12., as having been collected in Yucatan by Johnson proves to be his No. 128 from Tobasco. This species should not be credited to this flora.]

[TILLANDSIA POLYSTACHYA Linn.
Although this species is noted by Professor Helmsley in the *Biol. Centr. Am.* as having been collected in Yucatan by both Schott and Johnson, it is not credited to Yucatan in Mez. C., Bromel., DC. Monogr. Phaner. 9: 1896.]

TILLANDSIA VESTITA Cham. & Schl. **Xeen.**
Abundant on forest trees near Izamal, 10 inches high, March (427). Very abundant at the port of Silam, 6 inches high April (664).

TILLANDSIA RECURVATA Linn.
Yucatan loc. ignot. (*Schott, 35*). Mez. C., Bromel., DC. Monogr. Phaner. 9: 1896. At the port of Silam, 8 inches high, flowers light purple. April (659).

TILLANDSIA STREPTOPHYLLA Scheidw. **Xholohbenal.**
At Progreso (*Schott, 274*). Mez. C., Bromel, DC. Monogr. Phaner. 9: 1896. At the port of Silam, 3 feet high, April (668).

TILLANDSIA USNEOIDES Linn. *Barba Españuela.* **Mex-nuxib.**
Yucatan loc. ignot. (*Schott 76*). Mez. C., Bromel, DC. Monogr. Phaner. 9: 1876. Abundant at the port of Silam. April (663).

Tillandsia utriculata Linn.
Erect 4 feet high, abundant at the port of Silam, April (651).

VRIESIA PSITTACINA DECOLOR Wawra.
Yucatan loc. ignot. (*Schott, 75*). Mez. C., Bromel., DC. Monogr. Phaner. 9: 1896.

COMMELINACEÆ.

Rhœo discolor (L'Her) Hance. **Chac-ɔam. Yax-ɔana.**
Common on all ruins and rocky places, 18 to 20 inches high, flowers pure white, Jan. to Dec. (535, 809).

PONTEDERIACEÆ.

Heteranthera limosa Willd.
Herb 6 inches high, flowers dark blue. In sartenejas near Izamal, July (840).

LILIACEÆ.

Aloe vera Linn. *Zavila.*
Cultivated at Izamal, March (527).

Asparagus officinalis Linn. *Esparrago.*
Herb 6 feet, uncommonly cultivated at Izamal, Jan. to Dec. (485).

Echeandia terniflora Ortega.
Herb 4 feet high, common in moist, shady places near Izamal, Sept. (843).

AMARYLLIDACEÆ.

Agave rigida elongata Mill. *Agave. Henequen.* **Sacci.**
Agave Sisalana Perrine. Extensively cultivated, constituting the wealth of Yucatan. Izamal, Oct. to March (375).

AMARYLLIS EQUESTRIS (Herb.) Ait. *Adonis.*
Hippeastrum equestre, Herb. Commonly cultivated at Izamal. Jan. to March (569).

Hymenocallis lacera Salisb.
H. rotata Herb. Herb 3 feet high, common in moist places near Izamal. July to Aug. (777).

ORCHIDACEÆ.

Spiranthes orchioides A. Rich. *Cerciopelo.*
Rare, 2 feet high, flowers bright crimson. North Izamal, June (874).

Spiranthes polyantha Reichb. f.
Rare, 1 to 2 feet high, flowers dull red. In crevices of rocks at Xcholac, Feb. (442).

PIPERACEÆ.

Peperomia glutinosa sp. nov. (Plate XII).
Stem thick, succulent, creeping (3 feet), glabrous; branches erect, dichotomously forked or simple, internodes 2 to 4 inches long. Leaves opposite, rarely a whorl of 3, fleshy, smooth both sides, ovate, entire, tapering at both ends, blunt, 3-veined, not dotted; petiole one-third to one-half the length of the blade. Rachis terminal, slender, 3 to 6 inches long, glabrous, shallow-foveolate. Ovary pyriform, rostellate, subtended by a flat disciform ovoid scale, and covered on the basal half with a black sticky exhudation. Stigma apical, capitate. Leaves 1 to 2 inches long.

On the borders of cenotes near Izamal, March (435). Also collected by Mr. Pringle on rocks at Mucos, San Luis Potosi, 1891 (*5066.*)

Piper medium Jacq. **Yaxtehc-ché.**
Shrub 15 feet high; common at Buena Vista Xbac. Aug. (783).

MORACEÆ.

Ficus Jaliscana Watson. **Pomoloché.**
Small tree 15 feet high, abundant in the brush and forest lands about Izamal, Jan. to June (365).

Ficus longipes Miq. *Alamo.* **Copó.**
Tree 60 feet high, abundant in forests everywhere. Izamal, May (599).

Morus celtidifolia H. B. K. *Mora.*
A large tree 90 feet high, abundant in the forests about Izamal, June (726).

URTICACEÆ.

ALICASTRUM BROWNEI Kuntze. *Ramon.* **Ox.**
Brosimum Alicastrum Sw. Tree 100 feet high, abundant everywhere in Yucatan; Izamal, June to July (748). Near Merida (*Valdez, 94*).

Dorstenia Contrajerva Houstoniana Bureau. **Xkambahan.**
Herb 10 inches high, abundant in the forests about Izamal, May (698).

Parietaria Pennsylvanica Floridana (Nutt.), Wedd.
Herb 18 inches high, common in moist, shady places about Izamal, Sept. to Nov. (844).

Pilea muscosa Lindl. *Frescura.* **Yomha.**
An abundant weed in gardens at Izamal (455). Common near Merida (*Valdez, 83*).

URERA MICROCARPA Wedd. **Laal.**
Shrub 20 feet high, common in the forests about Izamal, Dec. to March (501).

LORANTHACEÆ.

Loranthus calyculatus DC. **Chac-Xciu.**
Very abundant on trees everywhere. Izamal, May to Dec. (755).

Phoradendron flavescens Nutt. **Xax-xciu. Xmuy-ché.**
Common on trees at Silam, June (876), and at Izamal Jan. to Dec. (561).

OLACACEÆ.

Ximenia Americana Linn. **Xkuk-ché.**
Tree 40 feet high, common in the forests near Izamal, June (710).

ARISTOLOCHIACEÆ.

Aristolochia brevipes Benth. *Guaco.*
Vine 6 feet, abundant on stone walls about Izamal, Jan. to Dec. (441).

ARISTOLOCHIA GRANDIFLORA Sw. *Flor de Pato.*
Aristolochia fœtens Lindl. Introduced from the Island of Ruatan to cultivation at Izamal, Oct. to March (327).

POLYGONACEÆ.

Coccoloba coronata Jacq.? **Xbobché.**
Tree 30 feet high, common in the forests near Izamal, Sept. (not in fruit, 819).

COCCOLOBA UVIFERA (Linn.) Jacq. *Uva de Mer. Uba.*
Shrub 4-6 feet high, on the beach at Progreso, April, 1887 (*Millspaugh, 6*). A large tree 60 feet high, abundant at the port of Silam, April (638).

Podopterus Mexicanus Humb. & Bonpl. **Sacioa.**
Tree 50 feet high, common in forests and brush lands near Izamal, July (750).

AMARANTACEÆ.

ACHYRANTHES ASPERA Linn. *Sorrillo Blanco,* **Sac-piché:**
Herb 5 feet high, common everywhere about Izamal, Sept. to Feb. (540).

ALTERNANTHERA STRAMINEA (Mart.) Millsp. *Amor Seco del Monte.*
Herb 6 feet high, abundant in brush lands about Izamal, Jan. to Dec. (369). Common near Merida (*Valdez, 53*).

Amaranthus polygonoides Linn. **Sacxtez.**
Herb 1 foot high, common on old fields about Izamal (459).

Amaranthus spinosus Linn. *Bledo.* **Xtes.**
Herb 3 feet high, very abundant in fields about Izamal, Jan. to Dec. (468). Common near Merida (*Valdez, 56*).

CELOSIA PANICULATA Linn.
Herb 4 feet high, infrequent, Xcholac, March (542).

Celosia virgata Jacq. **Xhatalnal.**
Herb 4 feet high, common on old fields, Izamal, Jan. to Dec. (458). Old fields near Merida (*Valdez, 79*).

Gomphrena decumbens Jacq.
In the brush lands about Izamal (369 in part).

IRISINE CELOSIOIDES Linn.
Suffrutescent 5 to 10 feet high, abundant in brush lands near Izamal, Oct. to Feb. (392).

Philoxerus vermicularis (L) R. Br.
Herb 2 feet high, abundant at the port of Silam, April (623).

PHYTOLACCACEÆ.

PETIVERIA ALLIACEA Linn. **Xpayché.**
Herb 6 feet high, very abundant on waste lands near Izamal, Sept. to Dec. (814). Waste lands near Tikul, Apr. 1887. (*Millspaugh 12*).

Phytolacca Mexicana Sweet? **Telcox.**
Racemes 6 to 9 inches long, peduncle 4 inches long, leaves 5 to 7 inches long, petioles 2 to 3 inches long, stamens 20, coccæ 10. With the next species (674^b).

Phytolacca octandra Linn? **Telcox.**
Racemes short peduncled, erect, 4 inches long, leaves 2 to 3 inches long, short petioled, stamens 8 to 10, coccæ 7 to 9. Abundant at the port of Silam, April (674^a in part).

RIVINA HUMILIS GLABRA Linn.
Herb 6 to 18 inches high, common on cultivated lands about Izamal, Jan. to Dec. (322).

NYCTAGINACEÆ.

BŒRHAAVIA ERECTA Linn. *Yerba blanca.* **Xacil-sacxiu.**
Trailing 6 feet, common at the port of Silam, April (627). Herb 3 feet high, very abundant on cultivated lands near Izamal, Jan. to Dec. (361). Common about Merida (*Valdez, 91*).

BOERHAAVIA HIRSUTA Linn.
Herb 3 feet high, common on cultivated ground, Jan. to Dec. (309).

Mirabilis Jalapa Linn. *Maravilla.*
Herb 5 feet high, abundant everywhere about Izamal, March to June (548).

Allionia violacea (Choisy).
Oxybaphus violaceus Choisy. Herb 1 foot high, common in shady places near Izamal, April (579).

Pisonia aculeata Linn. **H-Beeb.**
Trailing 50 feet, abundant in brush and forest lands at Izamal (305). Abundant near Merida (*Valdez, 57*).

PORTULACACEÆ.

Portulaca halimoides Linn. **Oay-och-can.**
Prostrate 6 inches; flowers orange-yellow. Common in moist places near Izamal, May (603).

Portulaca oleracea Linn. *Verdolaga.* **Xucul.**
Prostrate herb 18 inches, very abundant as a weed in gardens at Izamal, July to Oct. (517).

Portulaca pilosa Linn. **Oioch.**
Prostrate 12 inches, abundant in crevices of rocks near Izamal, Aug. (782).

Sesuvium Portulacastrum Linn.
Prostrate herb 6 feet, flowers blue, Port of Silam, April (625).

Talinum triangulare (Jacq.) Willd.
Herb 1 foot, not common; forests of Xcholac, April (598). Herb 1½ feet high, flowers white, the *crassifolium* form, shady places near Izamal, June to Oct. (733).

CARYOPHYLLACEÆ.

Silene Cucubalus Weibel.
Herb 1 foot high, a rare escape to old fields. Izamal, Sept. to June (545).

NYMPHACEÆ.

CASTALIA AMPLA (DC.) Salisb. **Lab.**
Abundant in the larger sartenejas, Jan. to Dec. (428).

ANONACEÆ.

Anona Cherimolia Mill. *Saramuyo.* **Oalmuy.**
Tree 30 feet high, commonly cultivated at Izamal for its fruit—the Custard-apple (605).

RANUNCULACEÆ.

CLEMATIS DIOICA Linn.
Vine 30 feet, abundant in brush lands near Izamal, in fruit Nov. (387).

MENISPERMACEÆ.

Cissampelos Pareira Linn. **Ououe-ché.**
Vine 15 feet, abundant on stone fences about Izamal, Sept. (484).

LAURACEÆ.

PERSEA GRATISSIMA Gærtn. *Aguacate.* **On.**
Cultivated at Merida, April, 1887. (*Millspaugh, 25*).

PAPAVERACEÆ.

Argemone Mexicana ochroleuca Lindl. *Cardo Santo.*
Herb 1 to 4 feet, abundant in open places about Izamal, May to Aug. (562). Common near dwellings, Merida (*Valdez, 16*).

CRUCIFERÆ.

Brassica oleracea Linn. *Col.*
Cultivated at Izamal, March (505).

CAKILE ÆQUALIS L'Her.
Cakile maritima Scop. On the beach at Progreso, April, 1887, (*Millspaugh, 7*). This species does not appear in Dr. Gaumer's collections from the port of Silam.

Lepidium apetalum Willd. *Mastuerzo.* **Putxiu.**
Herb 6 to 18 inches high, abundant as a weed in gardens, Izamal, Jan. to Dec. (456). Becoming plentiful about Merida (*Valdez, 14*).

CAPPARIDACEÆ.

Capparis amygdalifolia Jacq.
Shrub 6 feet high, common at the port of Silam, April (657).

Cleome polygama Linn.
Our specimens are nearest to the published characters of this species. Herb 2 feet high, leaves entire, flowers white, stipules and petioles prickly; stems, branches and petioles finely pubescent, pod glabrous. Common at Silam, April (617).

Cleome spinosa Jacq.
Herb 5 feet high, on waste grounds in towns, Izamal, July to March (405).

CRATÆVA GYNANDRA Linn. *Tres Marias.* **Xkolocmax.**
C. Tapia L. Tree 60 feet high, common in the brush and forests about Izamal, Oct. to April (333). Abundant near Merida, (*Valdez, 76*).

MORINGACEÆ.

Moringa aptera Gærtn.
An African shrub 20 feet high, sparingly cultivated at Izamal, March to June (465).

CRASSULACEÆ.

BRYOPHYLLUM PINNATUM (Lam.) S. Kurz. *Siempre vive.* **Cisalxiu.**
Bryophyllum calycinum Salisb. Herb 3 to 6 feet high, abundant in and about towns, Izamal, Dec. to June (514). Common in and about Merida (*Valdez, 78*).

LEGUMINOSÆ.

ACACIA FARNESIANA (L.) Willd. **Xkantiriz.**
Tree 25 feet high, common from Temax to Silam, April (658).

Acacia filicina Willd. **Xaax.**
Tree 20 feet high, common in the forest and brush lands about Izamal, Aug. to Sept. (863).

ACACIA SPADICIGERA Cham. & Schl. **Subin.**
Low tree 20 feet. Abundant in the brush and forest lands about Izamal, Jan. to Dec. (353).

Acacia sphærocephala Cham. & Schl.
Shrub 8 feet high. Common at the Port of Silam, April (655).

Æschynomene fascicularis Cham. & Schl.
Shrub 20 feet high. Common in brush lands near Izamal (495, 511).

BAUHINIA DIVARICATA Linn. *Pata de Vaca.* **Zac Ɔulud-tok.**
Bauhinia porrecta Sw. A small tree 15 to 30 feet high. Abundant in brush and forest lands near Izamal (307, 336 in part). Common near Merida (*Valdez, 11*).

CAESALPINIA PULCHERRIMA (L.) Sw. **Chacɔinkin.**
Campo near Merida (*Valdez, 97*).

Calliandra gracilis Klot. **Xyalaha-ɔac.**
Shrub 20 feet high, frequent in the brush lands about Izamal, Sept. (866).

CALLIANDRA PORTORICENSIS (Jacq.) Benth. **Pich.**
Tree 100 feet high, abundant everywhere near Izamal, June (722).

Cassia Chamæcrista Linn.
Herb 2 feet high; along the Chique road near Izamal, uncommon, Aug. (885).

CASSIA OCCIDENTALIS Linn. *Frijolillo.*
Shrub, 8 feet high; very abundant in open places near Izamal (519).

Cassia sericea Sw. **Xtulubayen.**
Herbaceous, 4 feet high. Abundant in waste places about Izamal, Jan. to Dec. (600). (*Millspaugh, Armour Exped. 225*).

Cracca Greenmanii sp. nov. (Plate XIII.)
Suffrutescent, roots tuberous, sericeous-pubescent. Leaflets 5, ovate, acute, obtuse, emarginate or mucronate, tapering to the short petiolule; glabrous above sericeous beneath, common petiole deeply channelled. Stipules subulate. Inflorescence on elongated few-flowered glandular-pubescent racemes, bracts subulate about the length of the peduncle. Calyx 5 parted, the two interior divisions somewhat connate, and one or more of the others once or twice irregularly cleft-dentate. Stamens diadelphous, anthers reniform, fixed at the base. Style in-curved, barbellate on the lower side; stigma terminal, slightly capitate; ovary about 16 ovuled. Legume flatly compressed, bivalved.

Plant 1 foot high; racemes 2.5 to 4 inches long; leaflets 5 to 10 lin. long, 3 to 7 lin. broad, petiolules 1 lin. long; corolla creamy white. Allied to *C. mollis* Benth., from which it differs in leaflets, pubescence and habit. Mr. J. M. Greenman of the Gray. Herb. Harvard first suggested the apparent novelty of this species.

Infrequent along roadsides at Izamal, where it is known by Dr. Gaumer, although it does not appear in his 1895 collection. In opens at Chichen Itza, Jan. (*Millspaugh, Armour Exped. 127*).

CRACCA CINEREA (L.) Kuntze. **Sulché.**
Tephrosia cinerea Pers. Herbaceous, 6 feet high; common along roadsides, Tecal road near Izamal, Sept. (869).

The narrow leaved form 16 inches high; Silam, April (616); and waste places Izamal (346 in part).

Crotalaria incana Linn. **Sacp'et.**
Herb 3 feet high; common in shady woods about Izamal, June to Oct. (775).

PAROSELA DOMINGENSIS (DC)
Dalea Domingensis DC. Shrubby, 5 feet high. Common in old fields at Izamal, Oct. to Feb. (389).

Meibomia Scorpiurus (Sw.) Kuntze.
Desmodium Scorpiurus Desv. Waste places about Izamal (346 in part).

Meibomia tortuosa (Sw.) Kuntze.
Desmodium tortuosum DC. Herb, 3 feet high; common in opens about Izamal, Sept. to Feb. (343).

The Yucatan specimens agree better in form and habit with the Jamaican than with the North Mexican.

Erythrina coralloides Mocq. & Sesse. **Chacmol-ché.**
Tree 30 feet high; common in brush and forest lands near Izamal, Jan. to June (306).

GLIRICIDIA MACULATA H. B. K. **Sacyab.**
Tree 30 feet high; abundant at Xanaba, Feb. (448).

HÆMATOXYLON CAMPECHIANUM Linn. *Palo de Tinte.*
Tree 30 feet high; abundant at the port of Silam, April (646).

INDIGOFERA ANIL Linn. **Choh.**
Shrubby, 4 to 6 feet high; common along the Chique road near Izamal, Sept. (886).

LEUCÆNA GLAUCA (L.) Benth. **Xaxim.**
Tree 30 feet high; abundant in the brush lands about Izamal (390).

Lysiloma latisiliqua (L.) Benth. **Ɔalam.**
Tree 80 feet high, very abundant in the forests about Izamal, April to May (606).

Lysiloma Sabicu Benth. **Xiaxek.**
Tree 20 feet high, common in the brush lands about Izamal, Aug. to Sept. (873).

Cacara erosa (L.) Kuntze. *Jicama.* **Chicam.**
Pachyrrhizus angulatus Rich. Vine 20 feet, flowers slaty-blue; abundant in the forests about Izamal, Sept. to Jan. (812).

PHASEOLUS LUNATUS Linn. *Frijole.*
Vine 10 feet. Common in the brush lands about Izamal, Aug. to March (564).

ICHTHYOMETHIA PISCIPULA (L.) Kuntze. **Habin.**
Piscidia Erythrina Linn. Large tree 50 to 80 feet high. Abundant in the forests near Izamal, March to May (524).

Pithecolobium brevifolium Benth. **Chucum.**
Tree 80 feet high, abundant in forests about Izamal, July (767).

PITHECOLOBIUM UNGUIS-CATI (L.) Benth. **Ɔinché.**
Tree 30 feet high, abundant in brush and forest near Izamal, Feb. (352).

Poinciana regia Boj. *Flamboyan.*
Tree 30 feet high, commonly cultivated throughout the tropics, Izamal, May (692), Merida, April, 1887 (*Millspaugh, 10*).

RHYNCHOSIA MINIMA (L.) DC.
Climbing 10 feet; brush lands about Izamal, common, Sept. to March (565, 768).

TAMARINDUS INDICA Linn. *Tamarindo.*
Tree 60 to 80 feet high; commonly cultivated throughout Yucatan, Izamal, June (709).

OXALIDACEÆ.

Oxalis Berlandieri Torr.
Herb 1 foot high; common along roadsides about Izamal, June (715).

Oxalis latifolia H. B. K. **Yala-elel.**
Herb 6 to 8 inches; abundant in gardens at Izamal, May to June (585.)

Our specimens compare better with Spruce's Ecuadorian forms than with Botteri's or Seaton's from Orizaba.

MALPIGHIACEÆ.

Heteropteris Beechyana A. Juss.
Vine 30 feet, flowers pink; rare, only one plant seen, that about three miles southeast of Izamal, Aug. (892).

ZYGOPHYLLACEÆ.

Guaicum sanctum Linn. Lignum vitæ.
A large tree 60 feet high; common at the port of Silam, April (669).

TRIBULUS MAXIMUS Linn. **Xichiak.**
Prostrate 3 feet, common in waste places near Izamal, Dec. to May (462).

TRIBULUS TERRESTRIS CISTOIDES (L.) Oliver. *Abrojo.* **Chanxnuc.**
Everywhere about Progreso, April, 1887 (*Millspaugh, 33*). Abundant at the port of Silam, April (620). Common at Merida (*Valdez, 37*).

RUTACEÆ.

Citrus acida Pers. *Limoncillo.*
Tree 20 feet high, extensively cultivated throughout the peninsula. Izamal, April to May (602).

CITRUS AURANTIUM Linn. *Naranja de China.*
Cultivated throughout the peninsula. Merida, April, 1887 (*Millspaugh, 26*). Tree 20 feet high, Izamal, March to June (549).

CITRUS LIMETTA Risso. *Limoncillo dulce.*
Tree 25 feet high, commonly cultivated; Izamal, Feb. to March (471).

CITRUS VULGARIS Risso. *Cajera.* **Suopakal.**
Tree 20 feet high; cultivated extensively at Izamal, Feb. to June (447).

Ruta graveolens Linn. *Ruda.*
Cultivated and escaped about Merida (*Millspaugh, 38; Valdez, 34*).

SIMARUBACEÆ.

ALVARADOA AMORPHIOIDES Liebm. *Palo de Ormigas.* **Xbesinic-ché.**
Tree 40 to 60 feet high, abundant in forest and brush lands near Izamal, Dec. (347). Common near Merida (*Valdez, 100*).

SURIANA MARITIMA Linn.
Shrub 10 feet high, common at the port of Silam, April (636).

BURSERACEÆ.

Bursera graveolens Tri. & Planch. **Nabanché.**

Tree 50 feet high, common in cultivation at Izamal, May (690).

MELIACEÆ.

CEDRELA ODORATA Linn. *Cedro.* **Kulché.**

Tree 80 to 125 feet high, abundant everywhere on the peninsula. Izamal, July (749).

MELIA AZEDERACH Linn. *Paraiso.*

Tree 60 feet high, common in cultivation at Izamal, May to June (583).

TRICHILIA TERMINALIS Jacq. **Choben-ché.**

Tree 60 feet, abundant in forests about Izamal (335).

EUPHORBIACEÆ.

Acalypha mollis Kunth.

Shrubby, 8 feet high. Common in the forests about Izamal, March to April (477).

ACALYPHA SETOSA A. Rich.

Herb 8 to 20 inches high; very abundant in old fields near Izamal (493).

Acalypha unibracteata Müll. **Chilibtux.**

Shrubby, 10 feet high, very abundant in the brush lands about Izamal (568).

The virgate branches are used by the Indians in the construction of bird cages and traps.

Argithamnia tinctoria sp. nov. (Plate XIV.)

Shrubby, 4 feet high, stems one or few, ligneous, smooth below, branching and appressed hairy above. Leaves ovate-lanceolate, acute at both ends, entire or with a few scattered indistinct gland-like teeth, three ribbed, the middle prominently veined, older leaves smooth above, all densely pilose below; 1.5 to 3 inches long, .75 to 1.5 inches broad, petiole very short, .12 to .25 inch long, stipules cornuate-apiculate .12 inch long. Inflorescence in short, densely flowered racemes, monœcious, twice to thrice shorter than the leaves. Female flowers: calyx lobes pilose, ovate-lanceolate narrowed at the base, pointed and keeled, the pedicels 1-bracted at the middle, styles dilated above, stigma bipartite spreading, glands small conduplicate, fruit densely pilose, seeds deep-rose color, densely honeycombed by strong reticulations. Male flowers hairy throughout, calyx lobes ovate pointed, petals orbiculate entire, glands free above, spatulate, glabrous.

This plant agrees with a specimen in Herb. Gray. Harvard, collected by C. Wright in Nicaragua, labeled *A. scrobiculata* sp. nov., C.W. The glands and seeds, when boiled, emit a beautiful rose-pink dye. Common about Xcholac, March (426).

Croton albidus Müll. **Ycaban.**

Shrubby, 1.5 to 2 feet high; along the railroad at Tecantun, Jan. 1895 (*Millspaugh, Armour Exped. 61, 189*). Shrubby, 3 feet high; abundant in the brush lands about Izamal (303).

Croton arboreus sp. nov. (Plate XV.)

§ *Eleuteria.* A large tree. Branchlets lepidote; stipules thick columnar; leaves palmately 5-veined, ovate-acuminate, deltoid or acute at the base, 4 to 6 inches long, 3 to 5 inches broad, petioles half the length of the blade which is bicolor, sparingly lepidote above, densely but not contiguously lepidote beneath with two sorts of lepida, the one rusty-brown greatly scattered, the other silvery with a rusty center. Young leaves ovate-cordate densely silvery-lepidote. Racemes axillary and terminal, mostly simple, about twice the length of the petiole; densely large flowered, with the usually single female flower separate at the base. Male flowers densely crowded, sessile; calyx of 5 ovate, pointed, rusty-lepidote sepals, petals ovate-spatulate hairy on the margin; stamens, 10 fertile, 1 sterile. Female flowers short pedicelled; calyx of 5 ovate, pointed, rusty-lepidote segments; petals ligulate, blunt; ovary globular, thickly matted with a felt half the diameter of the ovary, composed of lepidote-stellate hairs; style peltate, sessile, investing the upper half of the ovary, 4-partite, the segments 3-cleft, and these 3-fid, revolute. Capsules globular, slightly 3-sulcate; semen ignoti.

Tree 60 feet high, in the forests about Izamal (449). Near *C. niveus* Jacq.

Croton Cortezianus Kunth. **Xa-balam.**

Bushy, 3 to 5 feet high. Along the railroad at Bocobá, Jan. 1895 (*Millspaugh, Armour Exped., 191*). Common near Merida (*Valdez, 17*).

Croton flavens Linn.

In open woodlands north of Mascab Pixoy, Jan. 1895 (*Millspaugh, Armour Exped. 149*).

Croton fragilis H. B. K. **Taanché.**

Shrub 15 feet high, very abundant in the brush lands about Izamal (689).

Croton humilis Linn. **Ycaban.**

Herbaceous, 18 inches high. Open grounds and scrub lands about the Monjas, Chichen Itza, Jan. 1885 (*Millspaugh, Armour Exped. 102*). Common in the scrub lands near Merida (*Valdez, 20*).

Croton lobatus Linn.

Herb 1 to 4 feet high. Common in old fields about Izamal, July to Aug. (760).

Croton rhamniæfolius salviæfolius Müll. **Ecbalam.**

Shrubby, 5 feet high. Abundant in open fields about Izamal, Jan. to Dec. (407).

Dalechampsia scandens Linn.
Climbing vine 6 feet. Frequent in stony places near Izamal, Feb. to March (480).

EUPHORBIA ADENOPTERA Bertol.
Abundant on the roofs of houses at Silam, April (629).

Euphorbia astroites Fisch. & Mey.
Frequent in caves and on rocks in shady places near Izamal, Sept. to Feb. (521).

EUPHORBIA HETEROPHYLLA Linn. **Hobonkak.**
Common in damp shady places about Izamal, July to March (512).

Euphorbia heterophylla cyathophora (Murr.) Boiss.
A simple stemmed rigidly erect form, 2 to 3 feet high, with the leaves all clustered about the apical inflorescence. Frequent in shady places about Izamal, Aug. to Sept. (862).

EUPHORBIA HYPERICIFOLIA Linn.
Herb 18 inches high. Common in shady places during the dry season, Izamal, Feb. (508).

Euphorbia pilulifera procumbens (DC.) Boiss. **Xanabmucuy***
Very abundant on cultivated lands about Izamal (315). Common on waste grounds near Merida (*Valdez, 2*).

Euphorbia Preslii Guss.
Herb 5 feet high during the wet season. Abundant on vacant grounds about Izamal, Aug. to Sept. (882).

Euphorbia rhytisperma Engelm. **Xancalmucay.**
Abundant on stone walls about Izamal (460).

Euphorbia serpyllifolia Pers.
Cultivated lands about Izamal (315 in part).

Euphorbia thymifolia Burm.
Along fences and in shady places near Izamal, uncommon, June to Jan. (314 in part).

Euphorbia Mayana sp. nov. (Plate XVI). **Sac-chacah.**
§ *Alectoroctonum.* Shrubby 3 to 15 feer high, stems erect subligneous widely branching, whitish-ribbed, swollen-articulate, branches opposite, internodes 2 to 2.5 inches long. Leaves axillary and more or less ternate on the cymes, all alike, petioles somewhat longer than the ovate-obtuse, basally acute, pale, smooth, fleshy leaf. Inflorescence cymose-paniculate, 4 to 12 capitate, axillary or terminal on the slender branchlets; pedicels somewhat longer than the smooth campanulate involucres; involucral lobes spatulate, fimbriate-dentate, glands brown, plane, broader than the greenish-white crenate appendages.

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* Applied in general to the small prostrate species of Euphorbia.

Styles cleft into two columnar broadly swollen lobes but slightly capitate at the apex. Capsule deeply 3-carpellate, carpels scurfy not carinate; seeds globular, ecarunculate, white, deeply and irregularly scrobiculate. Leaves 4 to 6 lin. long, 3 to 5 lin. broad. Capsules 3 lin. diam.; seeds 1.5 lin. diam.

Differs from *E. Schlechtendalii*, its nearest counterpart, in its leaves, glands, appendages, styles, and habit. Named in commemoration of the aboriginal Maya's who have long used the plant medicinally as a drastic-purgative or emeto-cathartic according to the size of the dose employed.

Abundant in the brush lands about Izamal, June to Dec. (302). (*Millspaugh, Armour Exped. 99*).

Excœcaria glandulosa Sw. **Kanchunup.**

Tree-like 20 feet high, abundant about the the town of Silam, April (615).

Jatropha Curcas Linn. **Siclte.**

Shrub 15 feet high, cultivated to some extent at Izamal, June (746).

Jatropha urens Linn. *Chay.* **Chaya.**

Climbing 40 feet. Commonly cultivated at Izamal, producing the edible *Chay* of the market (604).

Jatropha urens stimulosa (Mich.) Müll. **Ɔinɔin-chay.**

Campo about Merida, April 1887 (*Millspaugh, 11*). Shrubby, 20 feet high, in the forests about Izamal, common, Jan. to Dec. (425).

Pedilanthus nodiflorus sp. nov. (Plate XVII.)

§ *Eupedilanthus.* Shrubby, 6 feet high. Stems whitish-farinose, jointed, widely branching; branches virgate, alternate. Leaves.................................... Inflorescence in lateral, spiciform, densely white-tomentose clusters at the nodes; pedicles in fruit as long as the involucre. Involucre red, the inferior lobes deltoid, irregularly 3-lobed at the apex, uniglandular at the base, superior lip deeply 2-lobed and with a rudimentary third lobe; lobes ovate-truncate, the apices finely and regularly serrate-toothed. Style columnar, long-exserted, composed of 6 coherent tubular styles; stigmas 3, bilobed at the very apex; ovary woolly-tomentose. Filaments and interior of the involucre glabrous. Capsule deeply 3-carpellate, carpels but slightly keeled; seeds globular, lurid, densely whitish-maculate.

Shrub 6 feet high; internodes 2 to 3 inches long; involucres 5 lin. long; capsule 4 lin. diameter. Abundant about the port of Silam (coastal), flowers bright scarlet, April (649).

Pedilanthus Itzæus sp. nov. (Plate XVIII.) **Yaxhalalché.**

§ *Anomalus: Involucre of 5 more or less distinct parts.*

Frutescent, glabrous, 5 feet high. Branches virgate, fleshy. Leaves alternate, sessile, fleshy, ovate-lanceolate acute, deltoid at the base, 2 to 3 inches long, 1.5 to 2 inches broad, midrib prominent, lateral veins nearly at right angles. Inflorescence terminal, one or few light-pink involucres. Involucre bilabiate, the outer lips sarcous, shorter, composed of 3 lobes; 2 truncate-deltoid, gibbous and uniglandular at the base; the third an evident cohesion of two others into a large, emarginate, 2-glandular lobe; the inner lip thin, tubular, composed of two divisions; one small, entire; the other cleft into three veined lobes, the central one 3-lobed at the apex. Style columnar, short-exserted; stigmas three, aristate. Fruit . . . . .

Named in commemoration of the Itzæ, the ancient sacred people of the aboriginal Maya's.

Coastal. On cultivated lands at the port of Silam, March to June (452). Also collected by Sr. Valdez (*85*) without locality. Some of the specimens arrived at this institution full of vitality, and are now growing well in pots.

Phyllanthus sp.

Island of Cozumel, 1885 (*Gaumer, 103*). This specimen was not included in Professor Hemsley's enumeration of the Cozumel collection. Specimen in Herb. Gray. Harvard, communicated by Prof. Olliver.

PHYLLANTHUS ACUMINATUS Vahl.

A small tree, 10 feet high. Infrequent in the forests about Izamal, Sept. (797).

Phyllanthus Carolinensis Walt.

Shady places near Izamal, Feb. (508 in part).

Phyllanthus nutans Sw. **Xkahyuc. Xcaba-xpixtolon.**

Shrubby, 25 feet high. Abundant in brush lands about Izamal, Feb. to May (475). Common also at Temax, in fruit, May (685).

This is the "Phyllanthus, sp." collected on Cozumel in 1885 by Dr. Gaumer and noted on page 26.

RICINUS COMMUNIS Linn. *Higuerilla.* **Xkoch.***

Tree-like herb 10 to 20 feet high. Cultivated, and escaped to waste grounds, Izamal (457).

Tragia nepetæfolia Cav. **Popox.**

Trailing 3 feet. Common everywhere about Izamal, June (731).

CELASTRACEÆ.

Hippocratea celastroides H. B. K.? **Tulubalam.**

Woodlands near Merida (*Valdez, 75, 77*).

SAPINDACEÆ.

Cardiospermum molle H. B. K. **Huayunak.**

Vine 60 feet, abundant everywhere near Izamal, Jan. to Dec. (494).

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*The Maya name is misspelled on page 27.

VITACEÆ.

Vitis arborea Linn.

V. bipinnata T. & G. Vine 20 feet; abundant over stone walls near Izamal, June (716).

Vitis rhombifolia Baker. **Xtab-canil.**

Vine 30 feet; abundant on old stone walls near Izamal (835).

Urvillea ulmacea H. B. K. **Apaac.**

Vine 20 feet, abundant in brush lands about Izamal, Dec. to May (481). Abundant near Merida (*Valdez, 47*).

TILIACEÆ.

Corchorus pilolobus Link.

Herb 1 foot high, common in moist shady places near Izamal, Jan. to Sept. (766, 800).

MALVACEÆ.

ANODA HASTATA (Willd.) Cav. *Amapolite.*

Herb 3 feet high, flowers sky-blue, common in open lands about Izamal, July to March (334).

Hibiscus Berlandierianus Moric. **Hol.**

Widely branching shrub 4 to 6 feet high; roadside Mascab Pixoy to Xuku, Jan., 1895 (*Millspaugh, Armour Exped. 157*). Not *H. tubiflorus* as noted on p. 30.

Hibiscus Rosa-sinensis Linn. *Tulipan.*

In the scrub near Tikul, April, 1887 (*Millspaugh, 9*). Cultivated at Merida (*Valdez, 86*).

Hibiscus tubiflorus Moq. & Sesse. **Xtupkinil.**

Shrub 10 feet high, flowers bright crimson; abundant in the brush lands about Izamal, Jan. to Dec. (496).

Malachra palmata Mœnch.

M. triloba Desf. Herbaceous, 6 feet high; frequent at Xcholac, Nov. to March (418).

MALVAVISCUS ARBOREUS Cav.

A form with scattered stellate pubescence upon both sides of the bicolor leaf, dense upon the young branchlets and the petioles. Shrub 10 feet high, abundant in the scrub lands generally, Izamal, Jan. to Dec. (580).

SIDA ACUTA CARPINIFOLIA (L. f.) K. Schum. **Chi-chi-bé.**

Herb 3 feet high, very abundant everywhere about Izamal, Jan. to Dec. (811). About Merida (*Valdez, 38.*)

Sida ciliaris Linn.

Prostrate 10 inches, flowers reddish yellow, abundant in waste places about Izamal, July to August (779).

Sida diffusa H. B. K. **Xhauayxiu.**
Herb 10 inches high, frequent in barren places near Izamal, Sept. to March (861).

Sida rhombifolia Linn.
Herb 18 inches high, abundant in waste places about Izamal, Jan. to Dec. (308).

Sida supina pilosa (Cav.). **Hauyxiu.**
Prostrate or ascending, 18 inches, common in brush lands near Izamal, Jan. to Dec. (837).

BOMBACACEÆ.

CEIBA CASEARIA Medic. *Ceiba.* **Yaxché.**
C. pentandra (L.) Gaertn. Tree 100 feet high. General and abundant. Flowers lustrous pink, March (374).

CEIBA SCHOTTII Britt. & Baker fil. *Pochote.* **Piim.**
"Arbor ? Foliola digitatim disposita. Foliola (immatura ?) oblanceolata vel oblonga, apice acuta vel subacuminata mucronata rarius emarginata ad basin attenuata utrinque sparsissime pilis albidis obtecta, margine integra subtus subpallidiora, nervo medio prominente. Petiolus communis strictus, 1¼–1¾ poll. longus, petioluli ⅓–½ poll. longi. Flores actinomorphi. Calyx coriaceus bilobatus, externe glaber, interne pallide aureobrunneo-sericeus, circiter 1–1½ poll. longus. Petala haud expansa late linearia externe rufo-tomentosa, apice subobtusa, circiter 2½ poll. longa. Stamina (immatura ?) petalis breviora, filamenta glabra medium versus in tubum cylindricum connata, tubus fere 1 poll. longus. Antheræ ut in Cucurbitaceis undulato-plicatæ. Stylus glaber, stamina superans."

"Hab. Merida, Yucatan, *Schott.* 'Pochote.'"

"We are unable to determine the number of leaflets, they having become detached from the common petiole. It is allied to *C. æsculifolia* (= *Bombax æsculifolium* H. B. K. (*Eriodendron* DC.)) and *C. tomentosa.* The former differs by its leaflets being serrated at the margins ; in the latter the leaflets are also serrated, and the staminal column is much shorter, and correspondingly the free filaments are longer. Also allied to *C. Burchellii* K. Schum., from Brazil, but this plant has a more cylindrical calyx. There is a plant in the Kew Herbarium, collected by Bernoulli and Cario in Guatemala, No. 3128, which is very closely allied, but the lobes of the calyx are slightly mucronate."

"We have two sheets in the British Museum Herbarium from Herb. Pavon, labelled 'Bombax erianthos de Mexico.' These seem to agree very nearly with the description based upon imperfect material of *Bombax æsculifolium* (H. B. K. Nov. Gen. v. 298). The leaflets are not, however, smooth below, but slightly ferruginous tomentose on the veins and at the base. The petals are broadly linear and ferruginous hirsute externally, and about

3 inches long, whereas Kunth describes those of *æsculifolium* as 'subquinquepollicaria'; he adds, however, 'nonnisi fragmenta floris vidi.' In the Pavon plant the style is hirsute towards the apex, while in *B. æsculifolium* it is described as glabrous." Jour. Bot. 34:173. April, 1896.

Though our specimens differ somewhat from the description given above, they agree perfectly with Schott's specimens deposited in the National Herbarium. I have, therefore, little hesitancy in placing our number under this species.

Dr. Gaumer says: "A very spiny tree 100 feet high, with crimson flowers. Abundant in forests about Izamal, May to June" (694). In his specimens the leaflets are 7, the two lower smaller and narrower; common petiole 3 to 4 inches long, strigose-hairy especially above and below; petiolules, .5 inch long, strigose-hairy. Leaves: lower third entire, middle third irregularly blunt serrate, upper third sharply incurved-serrate, prolonged into a slender mucronate tip from .5 to 1 inch long.

CAROLINEA ALBA Lodd. *Amapola blanca.* **Kuyché.**

Pachira alba Walt. Cultivated at Izamal, March. Flowers white, petals 5 to 6 inches long, leaves ovate, broadest at the upper third, veins and midrib glabrous (286). Commonly cultivated at Merida (*Valdez, 66*).

CAROLINEA FASTUOSA (DC.) Sesse. *Amapola colorada.*

Pachira fastuosa Decne. Cultivated at Izamal, March. Flowers red, petals 3 to 4 inches long; leaves ovate, broadest at the middle, hisped on the midrib and larger veins beneath. (287).

Quararibea Fieldii sp. nov. (Plate XIX.)

Leaves alternate, thick, broadly obovate, pointed; obtuse or cuneate at the base, strongly netted-veined especially prominent beneath; entire, smooth and shining on both sides, 6 to 12 inches long, 2.5 to 4.5 inches broad; petiole smooth, short, .75 inch long. Inflorescence sessile opposite the petioles; calyx bibracteate at the base, infundibuliform, fleshy, smooth externally, densely appressed-tomentose within, 1 inch long, 3-toothed at the summit, teeth deltoid, acute, recurved at the apex (one or two of the teeth often shallow or deep notched); petals 5, distinct, ligulate, minutely hairy, irregularly somewhat lobed at the rounded blunt apex, narrowed at the base, 1.90 inches long, .35 inch broad. Column of stamens tubular, slightly longer than the petals, distinctly cleft at the apex into 5 slightly spatulate lobes, each lobe bearing exteriorly 3 divergently 2-locular anthers, 5 other anthers forming a crown slightly below the base of the lobes. Style filiform somewhat longer than the stamen tube; stigma distinctly 2-lipped; ovary pyriform, short-stipitate, tomentose, 2-celled. Fruit unknown. Hacienda de Chabenché, rare, Aug. (879).

Our specimens combine to some extent many characters of § *Euquararibea* Baill., and § *Myrodia* Baill., as described by Schumann in Engler and Prantl's *Natür. Pflanzenfam.*

A beautiful white flowered tree 30 feet high, redolent of fenugreek. Named in honor of Mr. Marshall Field, whose generosity renders our work on the plants of this region possible.

STERCULIACEÆ

Ayenia ovata Hemsl.

Shrub 6 feet high, not common. Port of Silam, April (666).

AYENIA MAGNA Linn.

Shrub 6 feet high, flowers dark crimson; common in the brush lands about Izamal, Sept. (823).

Ayenia pusilla Linn.

Herb 18 inches high, common along roadsides near Izamal, Sept. (818).

GUAZUMA TOMENTOSA H. B. K. **Pixoy.**

Tree 40 feet high, common everywhere on the peninsula. Izamal, April (684).

Helicteres Baruensis Jacq.

Shrub 15 feet high, abundant in brush and forest lands near Izamal, March to April (553). Sept. (799).

Melochia tomentosa Linn.

§ *Eumelochia.* Fruticose. Stems reddish-maculate, pyramidally branching; branchlets pubescent. Leaves bicolor, ovate-lanceolate, blunt, cordate-truncate at the base, stellate-pubescent above, stellate-tomentose beneath, broadly serrate-dentate, veins prominent below; petioles one-third to one-half the length of the blade. Stipules linear, ciliate, half the length of the petiole. Inflorescence in long peduncled cymes, usually with a single leaf near the base; pedicels slightly exceeding the calyx. Calyx persistent stellate-pubescent, lobes linear lanceolate, about half the length of the expanded corolla; corolla bright rose color changing to deep-blue on drying; petals spatulate. Stamens united only at the adnate base which is attached to the lower fourth of the petals. Ovary pyramidal, 5-angled, raised upon a short stipe; carpels stellate-pubescent, slightly pointed below externally; seeds obscurely triangular.

Shrub 10 feet high. Leaves 1.25 to 2 inches long, .5 to .25 inch wide; petioles .75 inch long; peduncles 1.5 inch, long, pedicels .25 inch long.

Another form with more characteristic inflorescence of *M. tomentosa* Linn., but with the same stellate pubescence and lanceolate sharply-dentate-serrate leaves is mingled with the above.

Common in brush-lands near Izamal, Jan. to Dec. (487).

WALTHERIA INDICA Linn. *Malva del Monte.*

W. Americana Linn. Shrubby, 6 to 8 feet high, abundant in the brush lands about Izamal. Feb. to April (378, 472, 509). Common near Merida (*Valdez, 54*).

BIXACEÆ.

MAXIMILLIANA HIBISCOIDES (Humb. & Bonpl.) **Chum.**

Cochlospermum hibiscoides, Kunth. Tree 30 to 90 feet high, abundant in the forests about Izamal, March to April (433).

VIOLACEÆ.

Ionidium brevicaule Mart.

Herb 6 inches high, frequent along roadsides near Izamal, Sept. (855).

Ionidium oppositifolium Rœm. & Schult.

I. riparium H. B. K. Herb 20 inches high, flowers blue, common in woodlands about Izamal (791).

TURNERACEÆ.

Turnera diffusa aphrodisiaca (Ward) Urban. **Xmisibcoc.**

Shrubby, 10 feet high, flowers orange-yellow, common at Xcholac, March (538); and in the scrub lands about Izamal, Sept. to Oct. (859).

Turnera ulmifolia Linn. *Clavel de Oro.*

Shrub 12 feet high, not common, cultivated lands near Izamal (325).

PASSIFLORACEÆ.

Passiflora ciliata Aiton. *Passionaria.* **Xpochkac.**

Vine 6 feet, flowers white, tinged with purple; common on waste lands near Izamal, Feb. to June (466). Vine 4 feet uncommon at the port of Silam, April (630).

Passiflora gossypifolia Lindl.

Vine 4 feet; not common; moist, shady places near Izamal. Flowers pale purple, Aug. (793).

LOASACEÆ.

GRONOVIA SCANDENS Linn. **Lalmuch.**

Vine 10 feet, abundant in shady places near Izamal, Aug. to Dec. (770).

CACTACEÆ.

Cereus pectem-aboriginum Engelm.

Abundant at the port of Silam; 30 feet high, flowers purple, April (613).

LYTHRACEÆ.

Cuphea Trinitatis DC.

Herb 8 to 16 inches high, flowers opposite, interpetiolar supraracemose and terminal, pedicels as long as the calyx. Common at Buena Vista Xbac, Aug. (785).

Punica Granatum Linn. *Granado.*
Cultivated at Merida, April, 1887 (*Millspaugh, 40*; *Valdez, 3*).

RHIZOPHORACEÆ.

RHIZOPHORA MANGLE Linn. *Mangle.* **Tapché.**
Tree 20 to 30 feet high, abundant at the port of Silam, April (654).

MYRTACEÆ.

Calycorectes Mexicanus Berg. **Pichiché.**
Tree 50 feet high, flowers creamy-white, common in brush and forest lands about Izamal, May to June (695).

PSIDIUM GUAJAVA Linn. *Guayabo.* **Pichi.**
Abundant both wild and cultivated near Merida (*Valdez, 95*). Tree 30 feet high, abundant at the port of Silam. April (631).

COMBRETACEÆ.

Conocarpus erectus arboreus Griseb. **Xkanché.**
Tree 30 feet high, very abundant at the port of Silam, April (642).

BUCERAS CATAPPA (L.) Hitch. *Almendra.*
Terminalia Catappa Linn. Tree 90 feet high, common in cultivation at Izamal, Feb. to March (470).

ONAGRACEÆ.

Jussieua suffruticosa Linn.
Shrubby, 10 feet high, common at Xcholac, Feb. (444).

UMBELLIFERÆ.

Fœniculum vulgare Mill. *Eneldo.*
Escaped to the campo south of Merida, April, 1887 (*Millspaugh, 4*). Cultivated at Merida (*Valdez, 99*).

MYRSINACEÆ.

Jacquinia armillaris Jacq. **Chacoicikax.**
Shrub 15 feet high, glabrous. Leaves rosulate at the tips of the branchlets or lateral, spatulate, rounded-obtuse, sessile, coriaceous, margin revolute, entire, light-green above, pallid beneath, sparingly punctulate. Inflorescence in a terminal, nodding, corymbose-raceme, peduncle about the length of the leaves, pedicels the length of the peduncle, with an ovate-deltoid, ciliate scale at the base, glabrous. Calyx turbinate, persistent, the lobes orbicular with a thin, white, chartaceous margin. Corolla campanulate, the lobes ovate, entire, convex, thick, with a thin membraneous margin; appendages ovate, 3-ribbed above. Style short, stigma capitate. Berry olive-shaped, sharply tipped with the persistent style. Leaves, peduncles, and pedicels 1 inch

long; flower flame-colored 5 lin. long; calyx 3 lin. long; segments 2 lin. broad. Fruit woody, yellow, 10 lin. long, 6 lin. diameter.

Plentiful at the port of Silam (coastal), rare in the interior, May to June (531).

PLUMBAGINACEÆ.

PLUMBAGO SCANDENS Linn. *Yerba del Alacran.* **Ɔaimenɔai. Chakhak.**
Scandent 5 feet; abundant in the brush lands about Izamal, March (393). Near Merida (*Valdez, 73*).

SAPOTACEÆ.

ACHRAS SAPOTA Linn. *Zapote.* **Ya.***
Tree 100 feet high; abundant at the port of Silam, April (639).

Chrysophyllum Cainito Linn. *Cayumito.*
Tree 60 feet high, widely cultivated for its fruit, Izamal, Aug. (780).

Lucuma multiflora A.DC. **Kanisté.**
Tree 50 feet high, commonly cultivated at Izamal, March to April (529).

Sideroxylon Mastichodendron Jacq.
Tree 80 feet high, very rare, only one seen, near Izamal, July (763).

APOCYNACEÆ.

Echites microcalyx A.DC.
Vine 10 feet, in brush lands about Izamal, rare, Aug. (881).

Plumeria rubra Linn. *Flor de Maya.*
Cultivated extensively at Tikul and Merida, April, 1887 (*Millspaugh, 29, 35*).

RAUWOLFIA HETEROPHYLLA Willd. **Cabamuc.**
Shrub 3 feet high, abundant about Silam, April (610).

TABERNAEMONTANA AMYGDALÆFOLIA Jacq. *Jasmin de Perro.* **Uɔupec.**
Shrub 12 feet high, very common in the brush and forest lands about Izamal, March to April (555); cultivated at Merida (*Valdez, 62*).

THEVETIA NEREIFOLIA Juss. *Campanilla.* **Aciɔ.**
Shrub 20 feet high, common both in forests and in cultivation, Jan. to Dec. (546); common near Merida (*Valdez, 87*).

Vinca rosea Linn.
Shrub 3 feet high, flowers pure white, cultivated at Izamal, Jan. to Dec. (380).

ASCLEPIADACEÆ.

ASCLEPIAS CURASSAVICA L. *Cancerillo.* **Xpolkusil.**
Common in damp places near Merida (*Valdez, 61*).

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* The Maya **Tauch Ya** is wrongly applied to this species on p. 37. The *tauch ya* is a species said to yield a fruit, tarry-black inside. Not yet collected, and may prove to be a Diospyros.

Asclepias longicornu Benth. **Xcabalkunché.**
Frequent about Merida (*Valdez, 72*).

Gonolobus barbatus H.B.K.
Vine 10 feet, common on stone fences near Izamal, Sept. (803).

MARSDENIA MACULATA Hook. **Xenoul.**
Vine 100 feet, common in forests about Izamal, May (686).

Marsdenia Mexicana Decne.
An uncommon vine in the brush lands about Izamal, Sept. (827).

Metastelma Schlechtendalii Decne.
Vine 18 feet, common in the brush lands about Izamal, Jan. to Dec. (539).

Philibertia Ervendbergii A. Gray.
Vine 6 feet, common on stone fences, Izamal, July to Aug. (880).

CONVOLVULACEÆ.

Convolvulus Grayi Rose. **Yaxkal.**
Extensively climbing over the bushes at Chichen Itza, Jan. (*Millspaugh, Armour Exped. 137b*).

CUSCUTA AMERICANA Linn.
Twining 6 feet, abundant on other plants in old fields near Izamal, (705).

Evolvulus alsinoides Linn. **Xiaxiu.**
Prostrate 6 to 18 inches, flowers purple, common in shady places near Izamal, Aug. to Sept. (805).

IPOMŒA BILOBA Forsk.
I. pes-capræ (L.) Roth. Vine 75 feet high, abundant at the port of Silam, April (662).

IPOMŒA BONA-NOX Linn.
Vine 30 feet, rare at Xcholac, Oct. to Feb. (330).

IPOMŒA COCCINEA Linn.
Waste places about Merida and Tikul, April, 1887 (*Millspaugh, 20*).

IPOMŒA JAMAICENSIS (Spreng.) G. Don.
Extensively climbing over shrubbery near the Monjas, Chichen Itza, Jan., 1895 (*Millspaugh, Armour Exped. 137a*).

Jacquemontia abutiloides Benth.
Vine 15 feet, common in the brush lands about Izamal, April, (574).

JACQUEMONTIA PENTANTHA G. Don. *Sombaritas Azul.* **Ak-ixiu.**
Vine 30 feet, very abundant in old fields near Izamal, Aug. to Dec. (331), common near Merida (*Valdez, 52*).

HYDROPHYLLACEÆ.

NAMA JAMAICENSE Linn. **Xpacumpac.**
Herb 6 to 12 inches high, common in cultivated land about Izamal, Jan. to Dec. (326), common near Merida (*Valdez, 15*).

BORRAGINACEÆ.

CORDIA SEBESTENA Linn. *Anachuita.* **Sac-copté.**
Tree 40 feet high, flowers bright scarlet, abundant at the port of Silam, April (634). At Merida (*Valdez, 21*).

Cordia cylindristachya (R.& P.) Roem. & Sch. **Xcopché.**
Shrub 15 feet high, common in brush lands near Izamal, May to Dec. (593).

CORDIA DODECANDRA DC. *Ciricote.* **Kopté.**
Tree 100 feet high, flowers bright orange-red, in forests and in cultivation, Izamal, Jan. to Dec. (526).

Cordia globosa (L.) H.B.K.
Tree-like 30 feet high, flowers greenish white; common in brush lands about Izamal, Sept. (801, 745).

EHRETIA TINIFOLIA Linn. *Roble.** **Beec.**
A large tree 90 feet high, abundant in the forests about Izamal, evergreen, June (381, 464), common near Merida (*Valdez, 42*).

Heliotropium Curassavicum Linn.
Herb 2 to 6 inches high, common at the port of Silam, April (644).

HELIOTROPIUM INUNDATUM Sw. **Nemax.**
Shrub 10 feet high, on open lands near Izamal, not common, June to July (747).

HELIOTROPIUM PARVIFLORUM Linn. *Rabo de Mico.* **Xnemax.**
Herb 2 to 4 feet high, common on cultivated lands near Izamal, Jan. to Dec. (324). Common near Merida (*Millspaugh*, 1887, *30*. *Valdez, 32*).

Heliotropium phyllostachyum Torr.
Herb 12 feet high, not common. Chique road near Izamal, Aug. (790).

TOURNEFORTIA VOLUBILIS Linn. **Xulkin.**
Young branches densely strigose-tomentose; leaves bicolor, short petioled, ovate-lanceolate, obliquely rounded at the base, sharply pointed, scattered strigose-hairy above especially on the veins, densely strigose-pubescent beneath. Inflorescence axillary, that at the ends of the branches forming a dense paniculate mass of unilateral slender spikes having a common zigzag axis. Flowers very short pedicelled; calyx strigose-hispid, 5-fid nearly

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* Although the Spanish word *Roble* is principally applied to the oak, it is also used to designate almost any tree having a hard, strong wood.

to the base, divisions linear; corolla tube hypocrateriform, strigose-hispid, nearly twice as long as the calyx, and longer than the ligulate lobes which are expanded at the base. Stamens included, inserted below the throat of the corrolla; anthers narrowly-lanceolate connivant at their tips; Stigma clavate, pappilose. Pyrenæ 4 (2) globose, minutely reticulate with anastomosing rugæ. Most of the fruit pathological.

Peduncles very short, one-quarter the length of the calyx; calyx ¾ lin. long; corolla tube 1 lin. long, segments ¾ lin.

Twining 10 to 15 feet over stone walls near Izamal, Jan. to Dec. (363).

TOURNEFORTIA GNAPHALODES (Jacq.), R. Br.
Shrub 4 feet; abundant at the port of Silam, April (637).

VERBENACEÆ.

AVICENNIA NITIDA Jacq.
Low tree 20 feet high; common in mangrove thickets at the port of Silam, April (619).

AVICENNIA OFFICINALIS Linn.
A. tomentosa Jacq. With the last species (635).

Callicarpa acuminata H. B. K. **Sac pukim.**
Shrub 20 feet high; abundant in forest and brush lands near Izamal, Aug. to March (870).

Clerodendron aculeatum (L.) Griseb. **Yoimte.**
Shrub 10 feet high; common in open lands near Izamal, July to Aug. (875, 736).

Clerodendron fragrans Vent. *Jasmin de Italia.*
Cultivated at Merida, April, 1887 (*Millspaugh, 22*). Tree 6 feet high, common in cultivation, Izamal, June (724).

Cornutia pyramidata Linn.
Shrub 10 feet high, Izamal, Sept. (822).

DURANTA REPENS L.
Duranta Plumieri Jacq. *D. Xalapensis* H. B. K. Shrub 15 feet high, flowers light blue; abundant in the brush and forest lands about Izamal, March to July (577).

LANTANA CAMARA Linn.
Waste grounds near Izamal (860).

LANTANA INVOLUCRATA Linn.
L. odorata Linn. Herb 16 inches high; common in shady places near Izamal, Sept. to Oct. (807).

Lippia Berlandieri Schauer. **Tarbay.**
Waste grounds near Tikul, April, 1887 (*Millspaugh, 41*).

Lippia dulcis Trev. *Orozus.*
Trailing 4 feet, rarely cultivated at Izamal, Jan. to Dec. (510).

Lippia geminata Kunth?
Shrubby, 20 feet high, *corolla white with a yellow throat;* abundant in brush lands near Izamal, Jan. to Dec. (830).

Lippia geminata H.B.K.
Shrubby, 8 feet high, common in brush lands near Izamal, March (478), agrees with the Tamaulipas form (*Pringle, 960*). Shrubby, 12 feet high, very abundant in old fields about Izamal, Jan. to Dec. (503); agrees with the Coahuila form (*Pringle, 215*).

Lippia graveolens H.B.K. *Oregano.*
Shrub 30 feet, largely cultivated at Izamal, Sept. to Oct. (832).

LIPPIA NODIFLORA (L.) Michx.
Ascending herb 3 feet high; abundant at the port of Silam, April (621).

LIPPIA STŒCHADIFOLIA (L.) H.B.K. *Té del Pais.* **Cabalyaxnic.**
Shrubby, 6 feet high; common in cultivation at Izamal, Jan. to Dec. (500). Common near Merida (*Valdez, 25*).

Petrea arborea H.B.K. **Yoxop-Ɔimin.**
Arborescent climber 30 feet; flowers bluish-purple; common in the forests about Izamal, Feb. to June (379).

Our plant differs in no essential from the description or from specimens seen, except that it is a climbing vine and that the pedicels are as described by Schaur—from three to four times longer than the calyx.

PRIVA LAPPULACEA (L.) Pers. *Berbenilla.*
Priva echinata Juss. Herb 3 feet high; abundant on waste and uncultivated lands near Izamal, Jan. to Dec. (364).

A lower form with smaller, less uncinate leaves, on open lands near Izamal (394).

Tamonea scabra Cham. & Schl.
Herb 2 feet high; abundant on waste lands about Izamal, Jan. to Dec. (834 b).

VALERIANODES JAMAICENSIS (L.) Kuntze.
Stachytarpheta Jamaicensis, Vahl. Herb 3 feet high, uncommon in the Woodlands about Yaxcaba, June (744). Common near Merida (*Valdez, 44*).

Vitex pyramidata Robnsn. **Yaxnic.**
Tree 50 feet high, flowers bright purple; uncommon in the forests about Izamal, March to April (607).

Differs from the type in Gray. Herb. only in stature and length of petiolules.

LABIATEÆ.

CLINOPODIUM BROWNEI (Sw.), Kuntze. *Poleo.*
Micromeria Brownei, Benth. Herb 3 feet high, abundant on cultivated grounds near Izamal, Jan. to Dec. (499). Common near Merida, (*Valdez, 35*).

Ocimum Basilicum Linn. *Albahaca.*
Herb 8 inches high, commonly cultivated. Izamal, March to April (516). Cultivated and escaped near Merida (*Valdez, 45*).

Ocimum canum Sims. *Albahaca silvestre.* **Cacaltun.**
Herb 1 to 2 feet high, common about Merida. April 1887 (*Millspaugh, 5*).

Ocimum micranthum Willd. **Xcacaltum.**
Herb 6 to 18 inches high; very abundant everywhere about Izamal. July to Nov. (889). Stony places near Merida, common (*Valdez, 1*).
The *Teucrium inflatum* noted on page 43 should be referred to this species.

Ocimum Selloi Benth. *Apazote.*
"Frequent in many parts of the peninsula." (*Valdez, 41*).

SALVIA COCCINEA Juss. **Ɔabɔiɔ.**
Herb 2 to 6 feet high, abundant in old fields about Izamal, Jan. to Dec. (453).

SALVIA OCCIDENTALIS Sw. *Thé du Cozumel.* **Cak-nep.**
Waste grounds near Merida. April 1887 (*Millspaugh, 27; Valdez, 55*).

SOLANACEÆ.

CAPSICUM BACCATUM Linn. *Chile del Monte.* **Xmax.**
Brush lands near Merida, April 1887 (*Millspaugh, 15*).

CAPSICUM FRUTESCENS Linn. *Chile del Monte.* **Xmax.**
Herbaceous, 5 feet high. Common in brush and forest lands about Izamal, (864).

CESTRUM DIURNUM Linn. *Juan de Noche.*
A cultivated shrub 20 feet high, Izamal, June (703).

Datura Metel Linn. *Chamico.* **Xtohcu.**
Herb 4 feet high, commonly cultivated at Izamal, Jan. to Dec. (454).

Physalis Barbadensis obscura (Michx.) Rydb.
Herbaceous, 3 feet high. Along the Sitilpech road near Izamal, Aug. to Sept.; uncommon (867).

Physalis mollis cinerascens (Dunal). Gray. **Xpahabcan.**
Herbaceous, 1 foot high. Common in the brush-lands about Izamal; flowers lemon-yellow, Feb. (482).

Solanum Seaforthianum Andr. *Piocha.*
Vine 60 feet, infrequently cultivated at Izamal, Jan. to Dec. (841).

SOLANUM TORVUM Sw. *Espina.*
Waste grounds near Tikul, Apr. (*Millspaugh, 2*).

SOLANUM VERBASCIFOLIUM L. **Tom-pap. Xtuhuy.**
Common about Merida (*Valdez, 28*).

Schwenkia Americana Linn.
Herb 3 feet high, in shady places near Izamal, July to Aug. (773).

SCROPHULARIACEÆ.

CAPRARIA BIFLORA Linn. *Agrimonia silvestre. Claudiosa.*
Both the small crenate-dentate, and the larger serrate-dentate forms, 6 feet high, common on open lands near Izamal, Jan. to Dec. (348). "Common near Merida" (*Valdez, 26*).

Capraria saxifragæfolia Cham. & Schl.
Shrubby, 3 feet high, abundant in open places near Izamal, Jan. to Dec. (520).

Castilleja arvensis Cham. & Schl.
Old fields near Tikul, April, 1887 (*Millspaugh, 42*).

Castilleja communis Benth.
Herb 16 inches high, flowers dark crimson, rare. North aspect of the Great Mound at Izamal, Feb. (416).

MONNIERA PROCUMBENS (Mill.) Kuntze.
Erinus Mill., *Herpestis chamædryoides* H. B. K. Herb, 8 inches high, common along roadsides near Izamal (474).

Russelia juncea Zucc. *Corallilo.*
Moist places in woodland, two miles south of Tikul, April, 1887 (*Millspaugh, 17*).

Russelia sarmentosa Jacq.
Herbaceous, 6 feet high, common about the shallower cenotes near Izamal, Feb. to May (463).

BIGNONIACEÆ.

CRESCENTIA CUJETE Linn. *Güiro.* **Huas.**
Tree 25 feet high. Abundant at Silam, and near many of the cenotes, April (437).

TECOMA STANS (L.) Juss. **Xkanlol.**
Shrub 20 feet high, very common in the brush lands about Izamal, Sept. to Feb. (332). Plentiful near Merida (*Valdez, 39*).

PEDALIACEÆ.

MARTYNIA DIANDRA Glox. **Chucchicil.**
Herb 4 feet high, flowers pink, common along the Tecal road near Izamal, Sept. (868).

ACANTHACEÆ.

Aphelandra pectinata Willd.
Shrub, 15 feet high, common in brush and forest near Izamal, Oct. to March (300).

Beloperone violacea Planch. & Linden.
Herb 3 feet high. Rare, at Buena Vista, Xbac. Flowers deep rose-purple, Aug. (784).

BLECHUM BROWNEI Juss.
Common in waste places near Merida (*Valdez, 84*).

Blechum blechoides (Sw.) Hitch. **Akabxiu.**
Blechum laxiflorum Juss. Herb, 2 feet high, abundant in shady places near Izamal, Jan. to Dec. (358).

DIAPEDIUM ASSURGENS (L.) Kuntze. **Nimis.**
Dicliptera Juss. Shrubby, 6 feet high, very abundant in open lands about Izamal, Nov. to March (413). "Common throughout the peninsula" (*Valdez, 33*).

TUBIFLORA SQUAMOSA (Jacq.) Kuntze. **Xcabalxaan.**
Verbena, Jacq. The caulescent form with truncate, long-aristate bracts (*Elytraria frondosa* H.B.K.); 8 to 12 inches high, common in brush and waste lands about Izamal, July to Feb. (311).

The acaulescent form with the bracts simply prolonged into an awl-shaped point (*E. tridentata* Vahl); 2 to 4 inches high, along roadsides at Xcholac, March (537). Near Merida (*Valdez, 68*).

Ruellia albicaulis Bert. **Oakalback.**
Shrub, 3 feet high, common in rocky places about Izamal, Oct. to May (360).

R. paniculata Linn. Included in Contrib. I, p. 46, is this species.

Ruellia tuberosa Linn. *Maravilla del Monte.* **Cabal-yaxnic.**
Herb 12 to 15 inches high, flowers bright blue, abundant in open grounds near Izamal, July (488, 759). Frequent in waste ground near Merida, April, 1887 (*Millspaugh, 13; Valdez, 23*).

Ruellia Tweedyana (Nees) Griseb? **Yamcotil.**
Leaves ovate to ovate-lanceolate, acute or acuminate, obtuse or emarginate, entire or slightly repand toothed, slightly and sparsely pubescent above, pale and minutely punctulate below, decurrent on the petiole, which is about one-fourth the length of the blade. Inflorescence terminal on the branchlets the 1 to 2 blue flowers cessile. Calyx deeply 3?-fid, two of the divisions being bifid for one-quarter their legnth; i. e., calyx imperfectly 5-fid. Ovules 4.

A spreading herb two feet high, common in shady situations near Izamal, Oct. to March (384). Common near Merida (*Valdez, 24*).

SIPHONOGLOSSA SESSILIS Oerst.
Dianthera sessilis Griseb. Herb 1 foot high, flowers bright pink. In sheltered places near Izamal, Feb. to June (351).

TETRAMERIUM COSTATUM (A. Gray).
Henrya A. Gray. Herb 1 to 2 feet high, abundant in brush lands about Izamal, Jan. to May (368).

TETRAMERIUM HISPIDUM Nees. **Xhuayumkak.**
Shrubby, 2 feet high, abundant in open lands about Izamal, Oct. to March (398). Common near Merida (*Valdez, 70*).

PLANTAGINACEÆ.

PLANTAGO MAJOR Linn. *Llanten.*
Herb 6 to 14 inches high, common on cultivated grounds near Izamal, Jan. to Dec. (440). "Cultivated and escaped at Merida." (*Valdez, 90*).

RUBIACEÆ.

CHIOCOCCA RACEMOSA Linn. **Kanchac-ché.**
Tree ! 40 feet, common in the forests about Izamal, June (729) Shrub ! 20 feet, in fruit Aug. (781).

Crusea calocephala DC.
Herbaceous, 3 feet high, abundant in brush and forest lands about Izamal Sept. to Oct. (831).

Diodia teres Walt.
Shady places about Izamal (807 in part.)

ERNODEA LITTORALIS Sw.
Shrub, 6 feet high, common at the port of Silam, April (628).

Guettarda elliptica Sw.
Tree, 50 feet high, common in the forests about Izamal July (753).

HAMELIA PATENS Jacq. **Kanan.**
Shrub, 10 feet high, abundant everywhere, Izamal, June (727).

MORINDA ROIOC Linn. **Xo-yen-cab.**
Shrub, 6 feet high, abundant in the brush lands about Izamal (362).

Randia Xalapensis Mart. & Gal. **Mehemkax. Kax.**
Shrub, 10 to 15 feet high, common in forests about Izamal, March to June (506,713).

SPERMACOCE TENUIOR, Lam.
Herb 3 feet high, common in brush lands about Izamal, July to Feb. (316).

SPERMACOCE VERTICILLATA Sw. **Xnioox.**
S. Hænkeana Hemsl. Herbaceous, 3 feet high, common on barren grounds about Izamal, Sept. to Oct. (810). Common about Merida (*Valdez, 74*).

CAPRIFOLIACEÆ.

Sambucus Canadensis Linn. *Sauco.*
Shrub, 6 to 10 feet high, cultivated at Merida, April, 1887 (*Millspaugh, 37*; *Valdez, 46*); also cultivated at Izamal, May to June (591). The lower leaves 3-divided.

CUCURBITACEÆ.*

CAYAPONIA ALATA Cogn.

Vine, 10 feet, rare, Izamal, Aug. (888).

Corallocarpus emetocatharticus Cogn. **Kiscan.**

(*C. glomeratus* Cogn. Cucurb., DC. Monogr. Phaner. 3. *Anguria*, Eggers). Near Merida (*Schott, 334*). Vine, 20 feet, abundant in brush and forest lands about Izamal, Dec. to June (597).

Corallocarpus Millspaughi Cogn., sp. nov. Plate XX.

Foliis membranaceis, longiuscule petiolatis, utrinque glaberrimis et minute sparseque punctatis, late ovato-triangularibus, indivisis vel obscure angulato-subtrilobatis, margine integerrimis, apice abrupte acutis et minute apiculatis, basi leviter lateque emarginatis, racemis masculis petiolo multo brevioribus, submultifloris; floribus longiuscule pedicellatis; calcyce subtiliter puberulo, tubo anguste campanulato, lobis late ovato-triangularibus, apice rotundatis. Rami robustiusculi, elongati, simplices, carnosi, glabri, laeves, teretiusculi, ad nodos leviter geniculati. Petiolus gracilis, striatus, vix puberulus, 2.5 to 3 cm. longus. Folia laete viridia, 5-7 cm. longa, 5.5 to 8 cm. lata; sinus basilaris latissime rotundatus, .5—1 cm. profundus, 3 to 4 cm. latus. Cirrhi gracilis, longiuscule, teretes, glabri. Pedunculus communis masculus satis gracilis, glaber simplex vel bifurcatus, 6-20-florus, 6 to 15 mm. longus; pedicelli capillares, patuli, tenuiter puberuli, 3 to 6 mm. longi. Calycis tubus basi acutus, 5 mm. longus, apice 2 mm. latus; lobi erecti, 1 mm. longi. Corolla extus brevissime denseque puberula. Flores feminei et fructus ignoti.

"Notwithstanding the absence of the female flowers and the fruits of this plant I am able to refer it satisfactorily to the genus *Corallocarpus*. It is near *C. emetocatharticus* Cogn. (in Bull. Soc. Bot. Belg. XXX. part 1, p. 279), from which it differs in its more entire leaves completely glabrous above, and its male flowers being not sessile in the glomerules but very short pedicillate."

In the scrub near Chichen Itza, Jan., not in flower (*Millspaugh, Armour Exped., 215*). Vine, 20 feet, common in the forest and brush lands about Izamal, Aug. to Dec. (842).

Cyclanthera ribiflora Cogn.

Fields about Merida, April (*Millspaugh, 21*). Izamal, June (231).

Maximowiczia tripartita Cogn.

Vine, 6 feet, common on old walls and fences about Izamal, Jan. to Dec. (415, 586).

CAMPANULACEÆ.

ISOTOMA LONGIFLORA (L.) Presl. *Lagrimas de San Diego.*

Herb 1 foot high; not common. Cultivated lands, Izamal, Jan. to Dec. (323). Common in moist places (*Valdez, 27*).

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* Determined by Professor Alfred Cogniaux.

COMPOSITÆ.

Ageratum conyzoides Linn. *Bakelus.*
Common about Merida (*Valdez, 13*).

AGERATUM CORYMBOSUM Zucc. **Taulum.**
Herb 2 feet, abundant in open lands near Izamal, Jan. to Dec. (395).

AMELLUS ASPERA (Jacq.) Kuntze.
Calea Jacq., *Melanthera deltoidea* Michx. Scrub lands about Izamal, Jan. (*Millspaugh, Armour Exped., 175*).

AMELLUS NIVEUS (Linn.) Kuntze.
Melanthera hastata, Michx. Herb 6 feet high, common on old fields about Izamal, July to March (404).

AMBROSIA HISPIDA Pursh.
A. crithmifolia DC. Herb 6 feet high, very abundant at the port of Silam, April (680).

Artemisia Mexicana Willd. *Agenjo del Pais.* **Sisim.**
"Frequent throughout the peninsula" (*Valdez, 40*).

Aster Novi-Belgii Linn.
Herb 1 foot high, flowers pale blue. Cultivated at Izamal, July to Dec. (857.)

Bidens leucantha Willd.
Herb 4 feet high, very common in waste lands, flowers pure white, Izamal, Jan. to Dec. (451). A smaller leaved form, 2 feet high, at the port of Silam, April (632).

Cnicus Mexicanus Hemsl.
Herb 4 feet high, common at the port of Silam, April (676).

Dysodia cancellata (Cass) A. Gray.
Herb 3 feet high, common in open places near Izamal, Sept. to Jan. (304).

Eclipta erecta Linn.
Herb 6 feet high; in old fields near Izamal, June (730).

Elvira Martyni Cass.
E. biflora DC. Herb 3 feet high; abundant on uncultivated and waste lands near Izamal, Sept. to Feb. (367.)

Erechthites sp. *Llanten silvestre.*
Not in flower. Common in waste lands near Merida (*Valdez, 48*).

ERIGERON CANADENSIS Linn.
Herb 3 feet high, frequent in waste places about Izamal, July to Dec. (846).

Eupatorium albicaule Sch. Bib.
Shrubby, 10 feet high, frequent in the brush lands about Izamal, Sept. to March (608, 824).

This is the first *Eupatorium* sp. mentioned on page 51 of contrib. I.; being Dr. Gaumer's No. *122* from Cozumel, and Johnson's "Yucatan and Tabasco" specimen contributed by Dr. Torrey to Kew in 1850. It agrees with the type collected at Papantla, Mexico, by Liebman (*88*) in 1841; and with Mr. Pringle's *3103* collected in Mexico in 1890.

ELEUTHERANTHERA DIVARICATA Rich. *Sanguinaria.* **Xkantumbub.**
Melampodium paludosum H. B. K. *M. divaricatum* (Rich.) DC.
Herb 4 feet high, abundant in old fields near Izamal, Sept. to Jan. (563). Abundant near Merida (*Valdez, 5*).

EUPATORIUM DREPANOPHYLLUM Klatt.
Island of Cozumel (*Gaumer**, *122*). Klatt, K.K.Natur. Hofmus. 1894 p. 356.

EUPATORIUM POPULIFOLIUM H.B.K. *Chioplé.*
Herb 10 feet high, in general cultivation at Izamal, March (552).
Our specimens agree best with the Guatemalan forms.

Eupatorium qaudrangulare DC.
"Common both wild and in cultivation." (*Valdez, 92*).

Helenium quadridentatum Labill. *Manzanilla.*
Common in waste places about Merida (*Valdez, 49*).

Lagascea mollis Cav.
Waste lands near Merida (*Valdez, 29*).

Melampodium hispidum H.B.K.
An infrequent herb, 4 feet high, in the forests about Izamal (789).
In our specimens the leaves are coarsely and distantly blunt-serrate.

Mikania scandens Willd.
Vine 15 feet, flowers white, common at Xcholac, June to Feb. (443).

Montanoa hibiscifolia C. Koch.
Herb 4 to 9 feet high, flowers pure white. Clearing north of Mascab Pixoy, Jan. (*Millspaugh, Armour Exped. 155*).

PARTHENIUM HYSTEROPHORUS Linn. *Altanisa.*
Waste lands near Tikul, April 1887 (*Millspaugh, 18*). Herb 18 inches high, very abundant everywhere near Izamal, Jan. to Dec. (558). Common about Merida (*Valdez, 12*).

Pectis prostrata Cav.
§ *Pectidiformes.* Low, branches spreading, pubescent in two lines. Leaves linear-lanceolate, sessile, acute, densely punctate-glandular beneath, minutely and regularly serrulate on the thickened margin, setose near the base, setæ long filiform. In-

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* Not Sauwne, as Dr. Klatt has it.

volucre solitary, cylindrical, axillary, short pedicelled, the 5 scales linear, obtuse, strongly keeled ; florets, 12 : ray-florets, 5 ; ray ovate, emarginate, style bifid, scales of pappus, 2 ; membraneous, lanceolate, awned, equaling the tube. Disk florets crenately 5-toothed, pappus 5-awned, awns lanceolate-linear aristate, stigma. clarate. Achemia 4-angled, pilose with scattered lax hairs.

Herb 6 inches high, branching diffusely from the rootstalk ; leaves, 6 lin. long, 1 lin. broad ; involucre 2 lin. long, scales .75 lin. broad.

Along roadsides near Izamal, July to Aug. (778).

Pectis punctata Jacq.
Herb 3 feet high, common along the Chique road near Izamal, Sept. (887).

PLUCHEA ODORATA (L.) Cass. *Santa Maria.* **Chalché.**
Shrubby, 15 feet high, widely cultivated at Izamal, Jan to Dec. (399). Common near Merida (*Valdez, 36*).

Porophyllum nummularium DC.
Shrubby, 15 feet high, common in the brushlands about Izamal (523).

Sanvitalia procumbens Lam. *Sanguinaria de flores negros.*
Abundant in waste places about Merida (*Valdez, 63*).

Senecio salignis DC.
'Old fields about Tikul. April 1887 (*Millspaugh, 28*).

Sonchus oleraceus Linn. *Achicoria. Lechuga silvestre.*
Herb 4 feet high, frequent on cultivated grounds about Izamal, July to March (310). Frequent about Merida (*Valdez, 81*).

Stephanomeria runcinata Nutt.
Herb 3 feet high, common in old corn fields at Silam, April (877).

Tagetes patula Linn. **Xpuhuc.**
Herb 3 to 6 feet high, very abundant in old fields about Izamal, Oct. to Nov. (476).

Tithonia diversifolia (Hemsl.) A. Gray. *Chioplé.*
Wild and cultivated near Izamal (*Valdez, 93*).

Tithonia tubæformis Cass.
Herb 18 inches high. common on open grounds near Izamal, July to March (489, 518.)

TRIDAX PROCUMBENS Linn. *Yerba San Juan. del Monte.*
Herb 20 inches, very common in waste places near Izamal, Jan. to Dec. (341). Common near Merida (*Valdez, 89*).

Tridax procumbens canescens DC.
Herb 18 inches, abundant in open places near Izamal, Jan. to Dec. (400).

TRIXIS RADIALE (L.) Lag. **Tokaban.**

Shrub 15, common in open lands near Izamal, Jan. (397). Common near Merida (*Valdez, 10*).

VIGUIERA HELIANTHOIDES H.B.K. **Tah.**

Abundant near Merida (*Valdez, 71*).

Wedelia hispida H.B.K.

Herb 3 feet high, abundant on old fields near Izamal, Sept. to Nov. (410 b).

Our specimens compare best in the involucre with Pringle's Nueva Leon, *2264*, and in leaves with Palmer's Soledad, *631*.

Zexmenia hispida A Gray. **Sahum.**

Herb 4 feet high, abundant in waste places near Izamal (826).

ORDERS.	Genera.	Species.	Mainland.	Insular Species.			
				Cozumel.	Mugeres.	Holbox.	Cankun.
Acanthaceæ	10	16	15	3	..	..	..
Amaranthaceæ	7	13	10	2	1	1	..
Amaryllidaceæ	3	8	3	1	..	..	..
Anacardiaceæ	8	4	1	4	..	..	..
Anonaceæ	1	4	8	1	..	..	..
Apocynaceæ	7	11	7	2	1	..	..
Araceæ	1	1	1	..	..	..	..
Aristolochiaceæ	1	2	2	..	..	..	..
Asclepiadaceæ	8	12	10	2	1	1	..
Asperifoliaceæ	4	14	11	4	4	..	1
Bignoniaceæ	4	5	2	2	1	..	..
Bixaceæ	3	8	3	..	..	..	..
Bombacaceæ	4	7	7	..	..	..	..
Bromeliaceæ	6	20	18	1	..	1	..
Burseraceæ	1	2	2	1	1	..	..
Cactaceæ	2	5	2	2	8	..	..
Campanulaceæ	1	1	..	1	..	..	..
Cannaceæ	1	1	..	1	..	..	..
Capparidaceæ	8	5	5	..	..	..	..
Caprifoliaceæ	1	2	1	1	..	..	1
Caricaceæ	2	2	2	1	1	..	1
Caryophyllaceæ	1	1	1	..	..	..	..
Casuarinaceæ	1	1	1	1	1	..	1
Celastraceæ	3	8	1	1	1	..	..
Chenopodiaceæ	2	2	..	..	..	2	..
Combretaceæ	8	8	1	2	..	1	..
Commelynaceæ	3	4	2	2	1	..	..
Compositæ	48	70	52	22	2	2	..
Convolvulaceæ	5	16	10	9	..	..	1
Crassulaceæ	1	1	1	..	..	..	..
Cruciferæ	3	8	3	1	1	..	..
Cucurbitaceæ	8	12	10	1	..	..	..
Cycadaceæ	1	1	1	..	..	..	..
Cyperaceæ	6	11	6	3	2	1	..
Dioscoreaceæ	1	2	1	1	..	..	..
Euphorbiaceæ	11	52	43	13	5	2	1
Filices	9	12	7	5	..	..	..
Fungi	8	8	8	..	..	..	..
Gentianaceæ	1	1	..	1	..	1	..
Goodeniaceæ	1	1	..	..	1	1	..
Gramineæ	17	28	22	4	1	4	..
Guttiferæ	1	1	..	1	..	..	..
Hepaticæ	4	5	3	2	..	..	..
Hippocrateaceæ	1	1	..	1	..	..	..
Hydrophyllaceæ	2	2	1	1	..	..	..
Iridaceæ	1	1	1	..	..	..	..
Labiateæ	5	11	8	3	2	..	..
Lauraceæ	8	3	1	1	..	1	..
Leguminosæ	33	100	78	30	9	..	..
Liliaceæ	5	5	5	..	..	..	..
Loasaceæ	1	1	1	..	..	..	..
Loranthaceæ	2	2	2	..	..	..	..
Lycopodiaceæ	1	1	1	..	..	..	..
Lythraceæ	8	3	8	1	..	..	..
Malpighiaceæ	5	9	6	3	..	..	..

ORDERS.	Genera.	Species.	Mainland.	Insular Species.			
				Cozumel	Mugeres.	Holbox.	Cankun.
Malvaceæ	7	18	16	2	..	..	..
Melastomaceæ	3	3	3	..	..	..	..
Meliaceæ	3	4	2	2	..	..	..
Menispermaceæ	1	1	1	..	..	..	..
Moraceæ	3	7	7	1	1	..	..
Moringaceæ	1	1	1	..	..	..	..
Musaceæ	1	2	2	2	1	..	2
Musci	7	7	6	2	..	..	..
Myrsinaceæ	2	4	2	2	..	1	..
Myrtaceæ	4	4	3	1	..	..	..
Nyctaginaceæ	4	5	5	1	..	..	..
Nymphaceæ	2	2	2	..	..	..	..
Olacaceæ	1	1	1	..	..	..	..
Onagraceæ	1	1	1	..	..	..	..
Orchidaceæ	2	3	3	..	..	..	..
Oxalideæ	2	2	2	..	..	..	..
Palmeæ	3	4	2	3	4	..	3
Pandaneæ	1	2	2	..	..	..	..
Papaveraceæ	1	2	2	1	..	..	..
Passifloraceæ	1	3	1	2	1	..	..
Pedaliaceæ	1	1	1	..	..	..	.
Phytolaccaceæ	2	7	5	2	2	..	..
Piperaceæ	2	3	3	..	..	..	..
Plantaginaceæ	1	1	..	1	..	..	..
Plumbaginaceæ	1	1	1	..	..	..	..
Polygalaceæ	1	1	1	..	..	..	..
Polygonaceæ	3	5	2	3	1	..	..
Portulaccaceæ	3	5	5	..	..	..	..
Ranunculaceæ	1	3	3	1	..	..	.
Rhamnaceæ	1	1	1	..	..	..	..
Rhizophoraceæ	1	1	..	1	..	1	1
Rubiaceæ	18	27	16	11	3	3	..
Rutaceæ	7	11	6	4	2	..	..
Sapindaceæ	6	8	6	2	..	..	..
Sapotaceæ	2	6	5	1	1	..	..
Scrophulariaceæ	5	11	7	4	1	1	..
Simarubaceæ	2	2	1	1	1	1	..
Smilaceæ	1	1	..	1	..	..	..
Solanaceæ	7	17	10	7	2	2	..
Sterculiaceæ	7	11	9	4	..	..	..
Tiliaceæ	2	3	3	..	..	..	..
Turneraceæ	1	2	2	..	..	..	..
Umbelliferæ	1	1	1	..	..	..	..
Urticaceæ	4	4	4	..	..	..	..
Verbenaceæ	14	20	18	9	3	3	..
Violaceæ	2	3	3	..	..	..	..
Vitaceæ	2	5	4	1	..	..	..
Zygophyllaceæ	2	3	2	1	..	..	..
Totals: Orders, 102	418	734	527	211	62	30	12

SUMMARY.*

Mainland Flora			527 species.
Insular Flora	Cozumel	211	315 "
	Sand Islands	104	

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*This summary and the tables include all published species.

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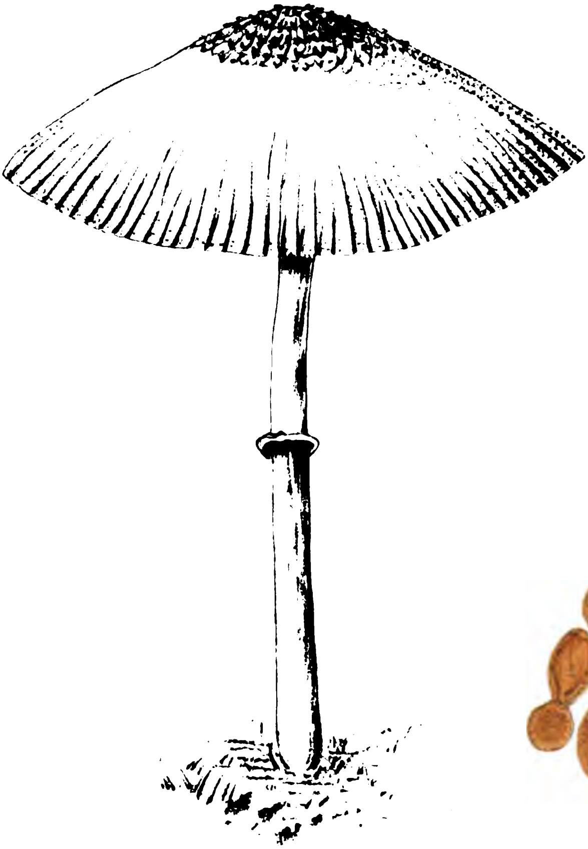
PL. VIII. AGARICUS YUCATANENSIS E. & E.

1. Whole plant, natural size.
2. Spores, magnified.

(See page 285.)



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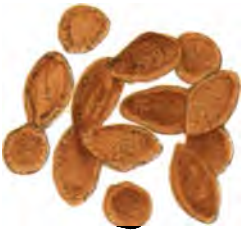

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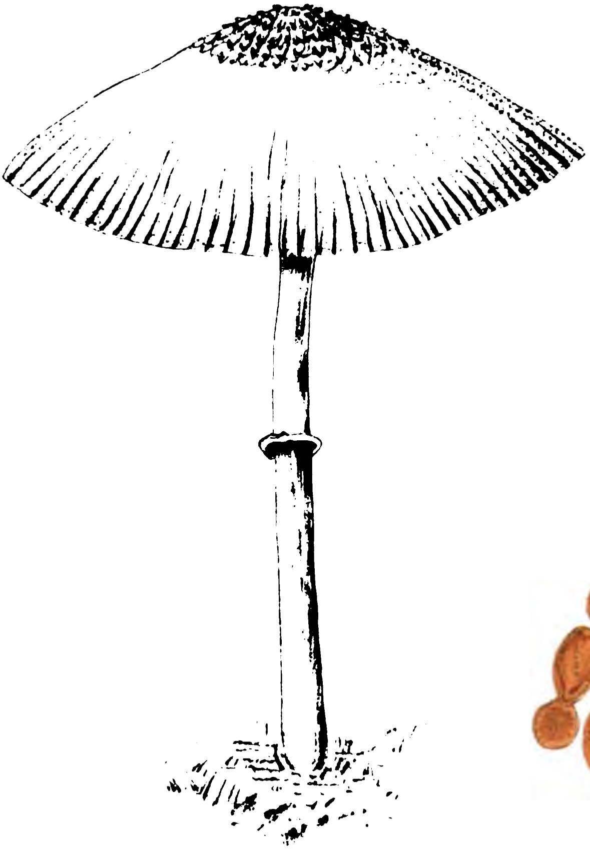
AGARICUS YUCATANENSIS, E. & E.

PL. VIII. AGARICUS YUCATANENSIS E. & E.

1. Whole plant, natural size.
2. Spores, magnified.

(See page 285.)



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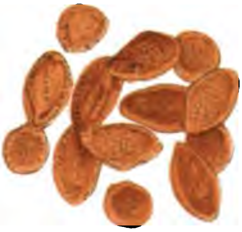


2

AGARICUS YUCATANENSIS, E. & E.

PL. IX. ASTERINA YUCATANENSIS E. & E.

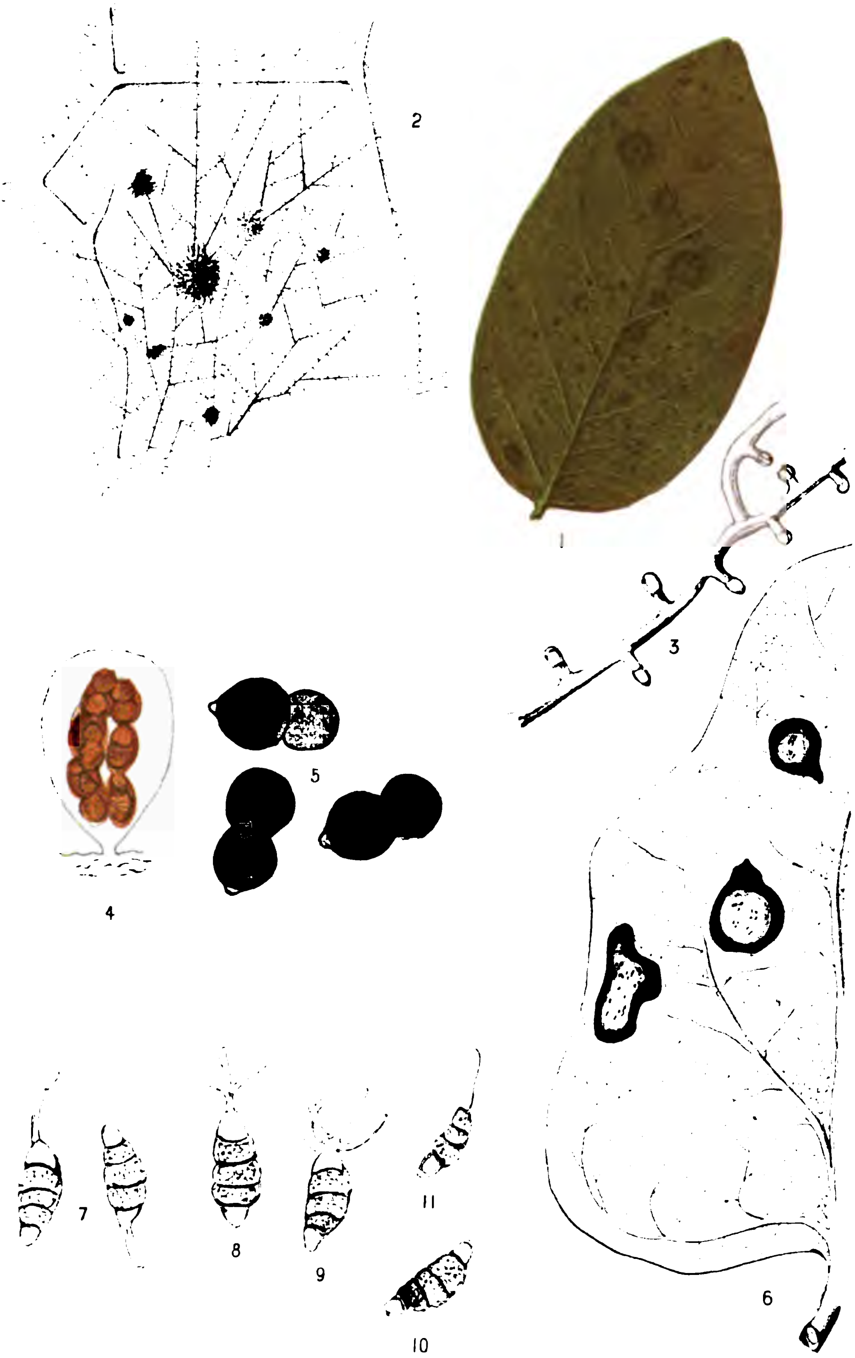
1. A host leaflet, natural size.
2. A portion of the same enlarged, showing the mycelium and perithecia.
3. Hypha, showing the alternate hyphopodia.
4. An ascus.
5. Sporidia.

(See page 285.)

PESTALOZZIA COCCOLOBÆ E. & E.

6. A leaf of the host.
7-10. Sporules.
11. Sporule, lateral view.

(See page 286.)

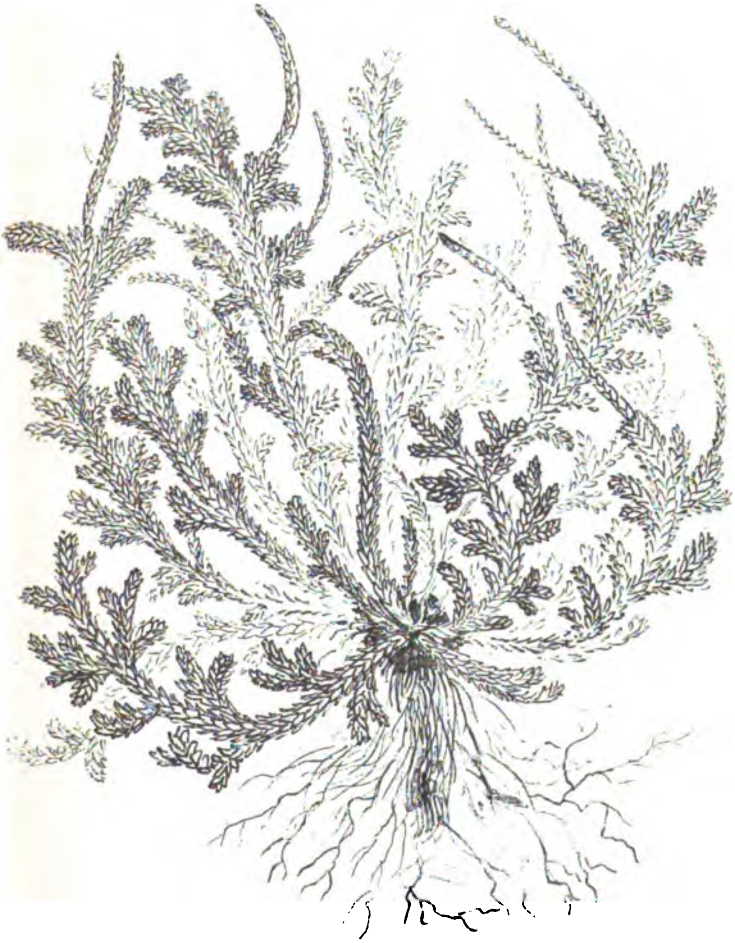


NEW YUCATAN FUNGI

PL. X. SELAGINELLA LONGISPICATA UNDERW.

Whole plant, natural size.

(See page 287.)



SELAGINELLA LONGISPICATA, Underw.

PL. XI. SETARIOPSIS LATIGLUMIS (VASEY) SCRIBN.

a. Spikelet, showing the second glume and base of the first glume.

b. Spikelet, showing the apex of the first glume, sides of the second, and back of the third glume.

c. Dorsal view of the third glume.

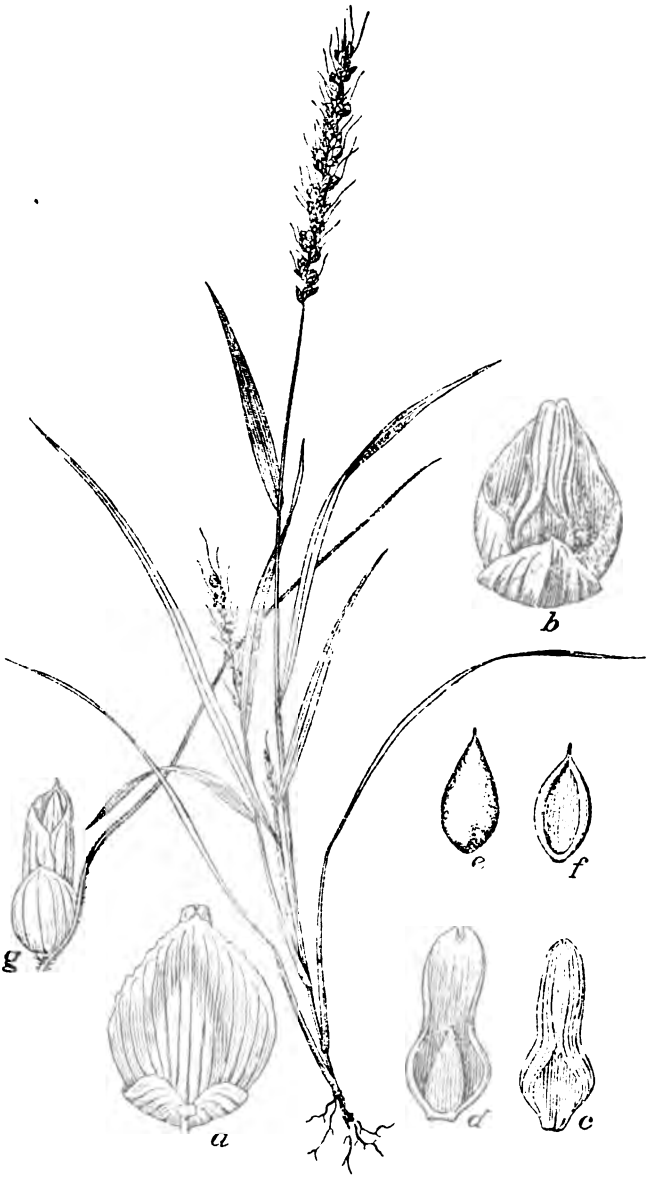
d. Anterior face of the third glume, showing the small palea.

e. Fourth or flowering glume, seen from the back.

f. Anterior view of the same.

g. A young skikelet, showing the awn-like prolongation of the supporting branch.

(See page 289.)

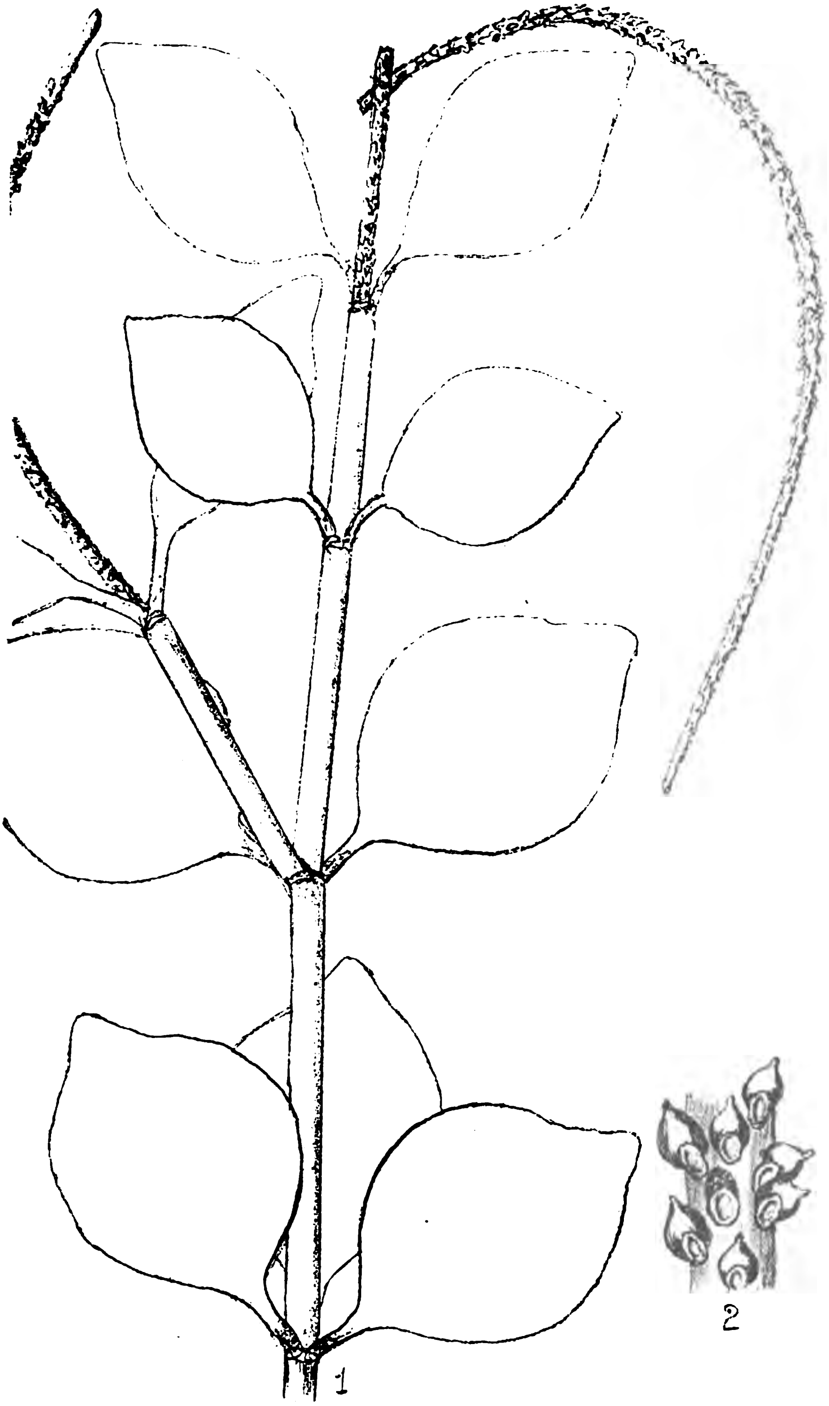


SETARIOPSIS LATIGLUMIS (Vasey), Scribn.

PL. XII. PEPEROMIA GLUTINOSA MILLSP.

1. Upper portion of a stem.
2. Portion of the rachis enlarged.

(See page 293.)

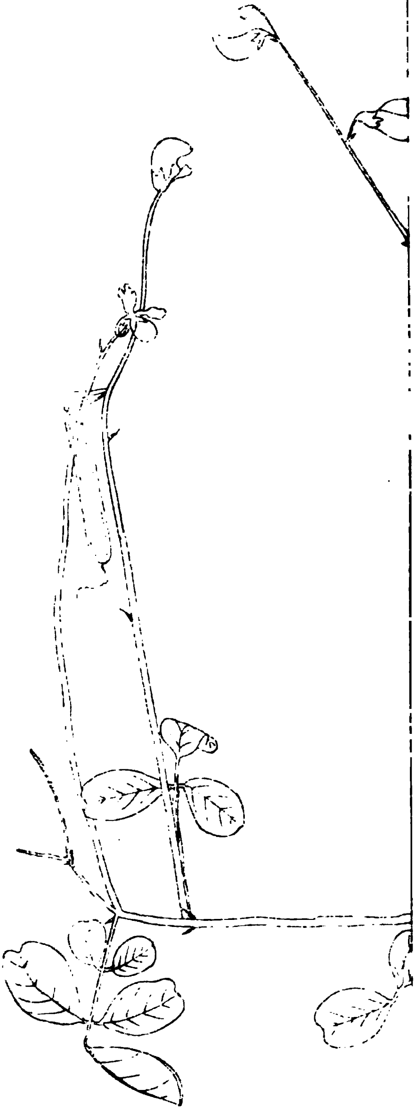


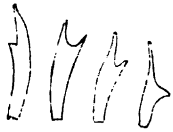
PEPEROMIA GLUTINOSA, Millsp.

PL. XIII. CRACCA GREENMANII MILLSP.

1. Portion of plant natural size.
2. Forms of inner calyx lobes, enlarged.
3. Flower, enlarged.

(See page 299.)



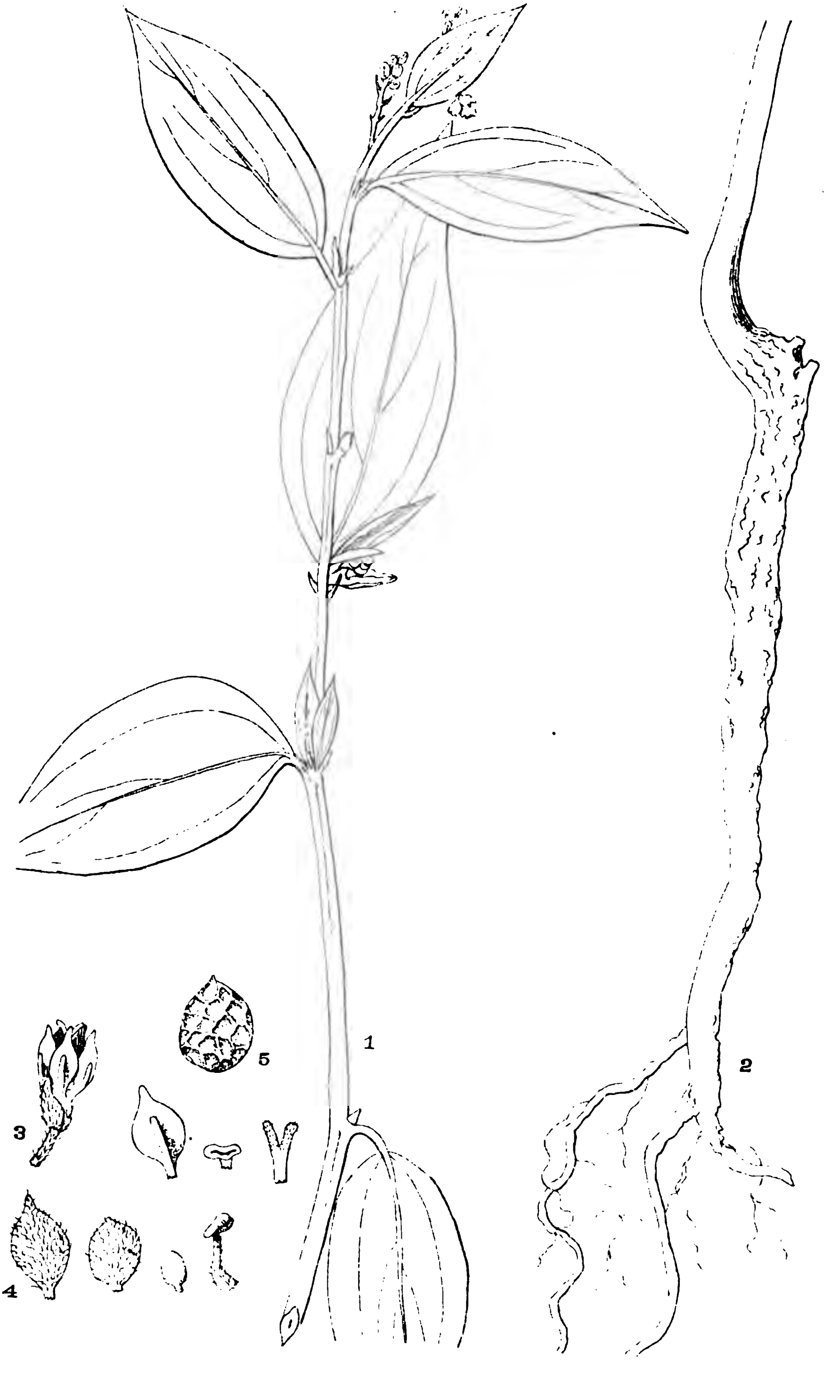


2

PL. XIV. ARGITHAMNIA TINCTORIA MILLSP.

1. Tip of plant, natural size.
2. Root.
3. Female flower; petal, gland and style.
4. Male sepal; petal, gland and stamen.
5. Seed.

(See page 302.)

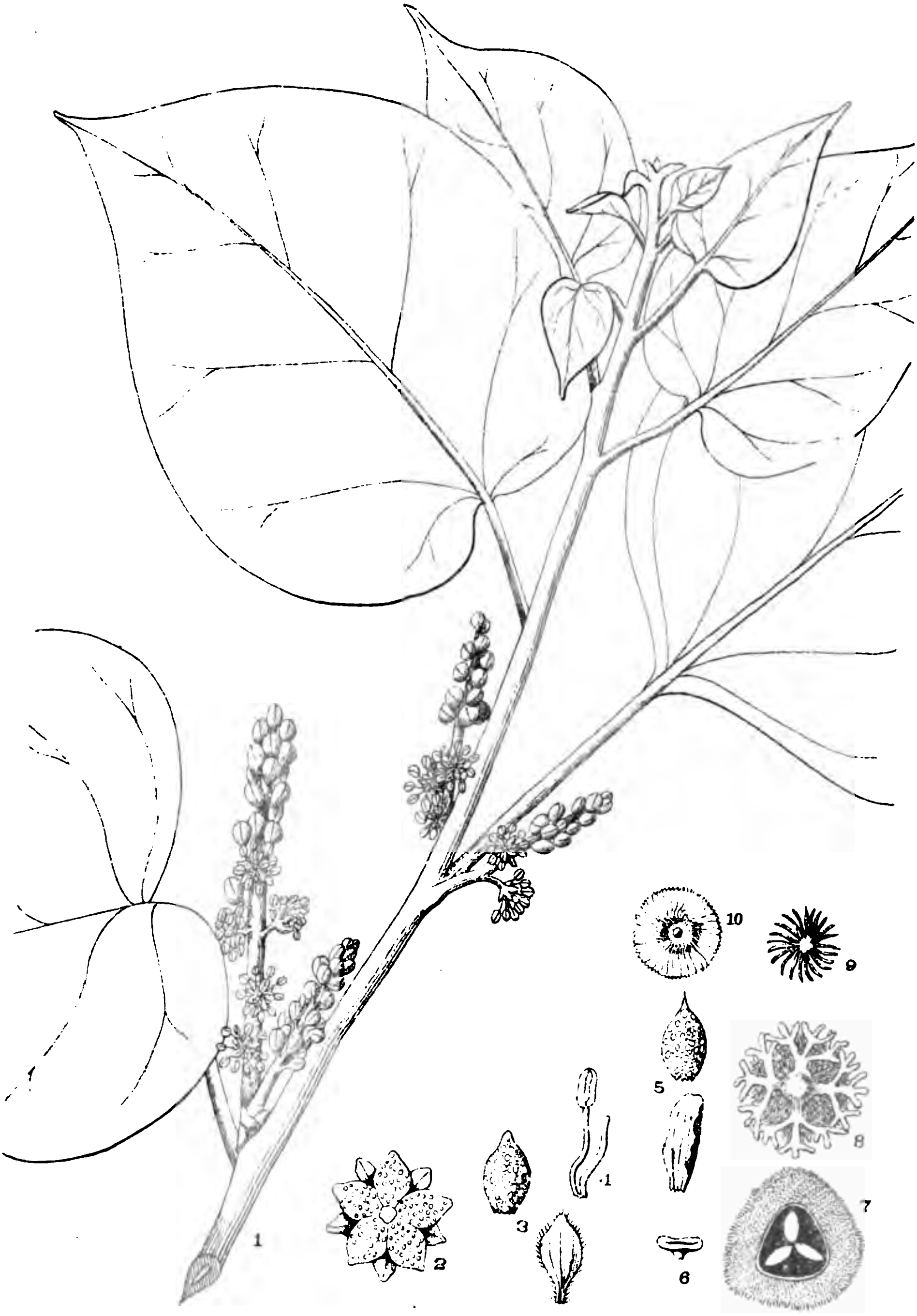


ARGITHAMNIA TINCTORIA, Millsp.

PL. XV. CROTON ARBOREUS MILLSP.

1. Portion of plant, natural size.
2. Male flower, under side, enlarged.
3. Male sepal and petal.
4. Stamen and rudiment.
5. Female sepal and petal.
6. Gland.
7. Ovary in section.
8. Pistil.
9. Hair of ovary, magnified.
10. Lepidote scale of leaf, magnified.

(See page 303.)

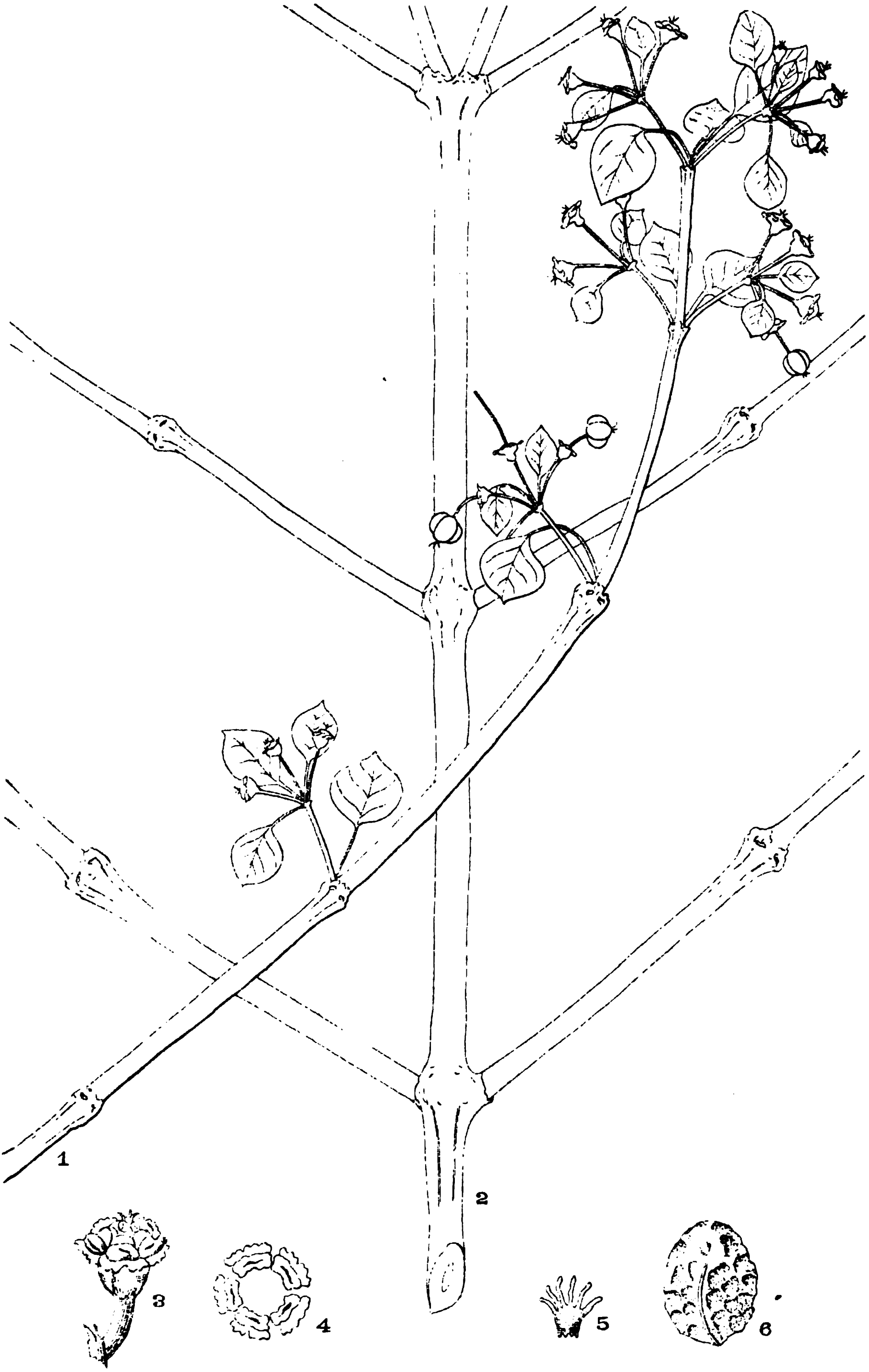


CROTON ARBOREUS, Millsp.

PL. XVI. EUPHORBIA MAYANA MILLSP.

1. End of branchlet, natural size.
2. Portion of a branch.
3. Flower, enlarged.
4. Glands and appendages.
5. Involucral lobe.
6. Seed.

(See page 304.)

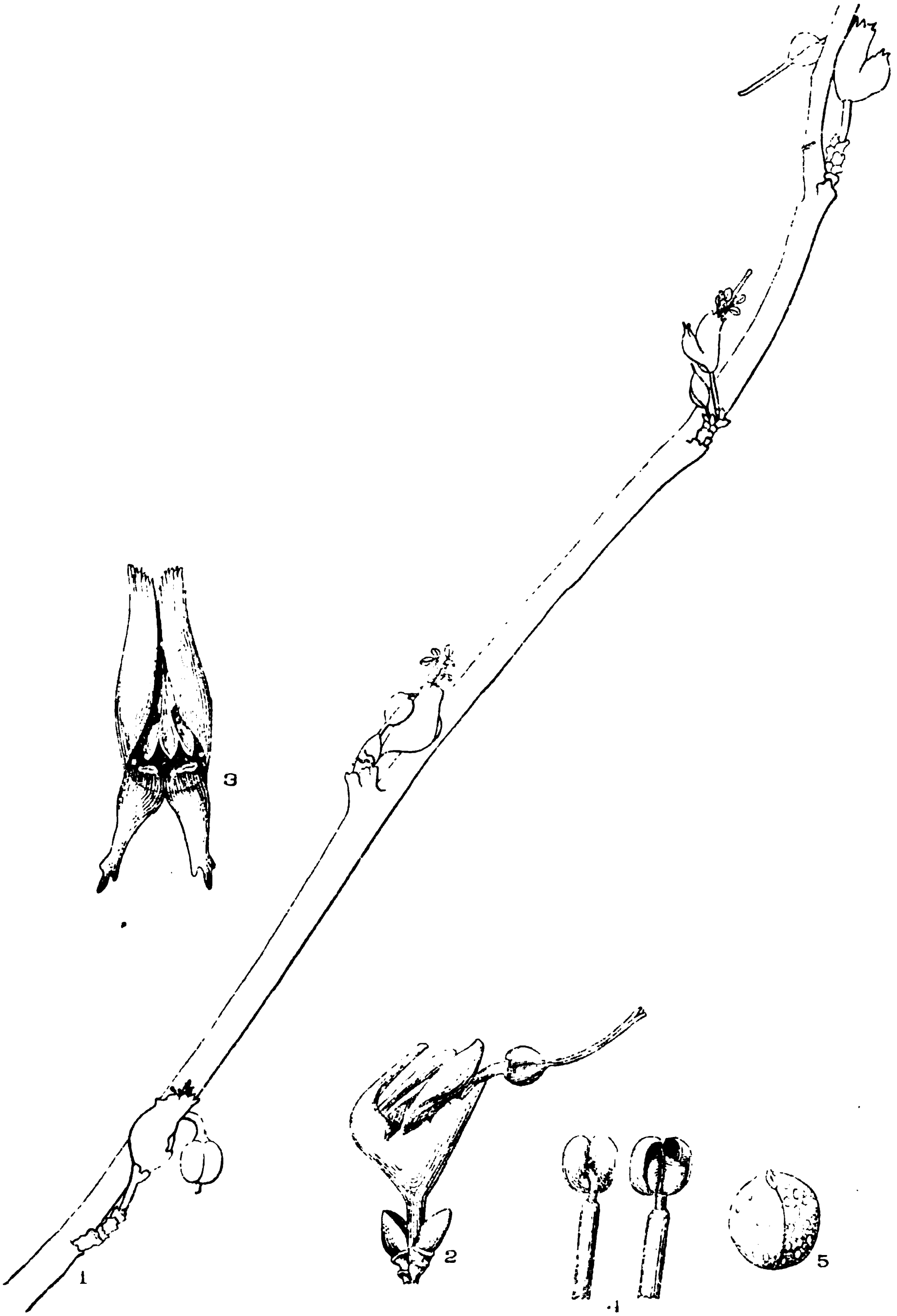


EUPHORBIA MAYANA, Millsp.

PL. XVII. PEDILANTHUS NODIFLORUS MILLSP.

1. Portion of a branch, natural size.
2. Flower, enlarged.
3. Inferior portion of the perianth opened to show position of the glands.
4. Posterior and anterior views of an anther.
5. Seed.

(See page 305.

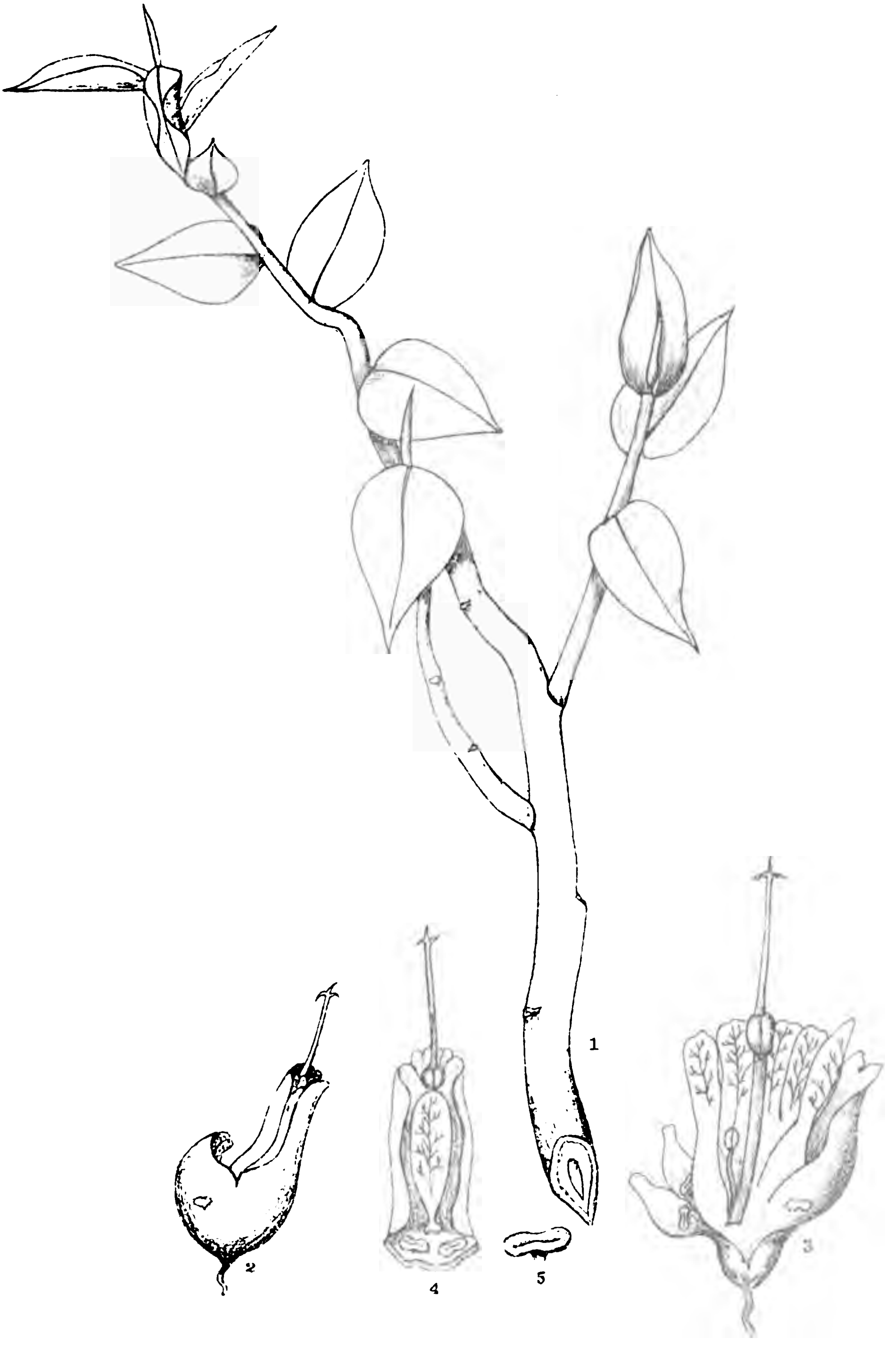


PEDILANTHUS NODIFLORUS, Millsp.

PL. XVIII. **PEDILANTHUS ITZÆUS MILLSP.**

1. Branch, natural size.
2. Flower, much enlarged.
3. Opened perianth.
4. Corolla tube.
5. Gland.

(See page 305.)



PEDILANTHUS ITZÆUS, Millsp.

PL. XIX. QUARARIBEA FIELDII MILLSP.

1. Tip of branch, natural size.
2. Column of stamens opened, interior view, enlarged.
3. Portion of stamen column, exterior.
4. Style and stigma.

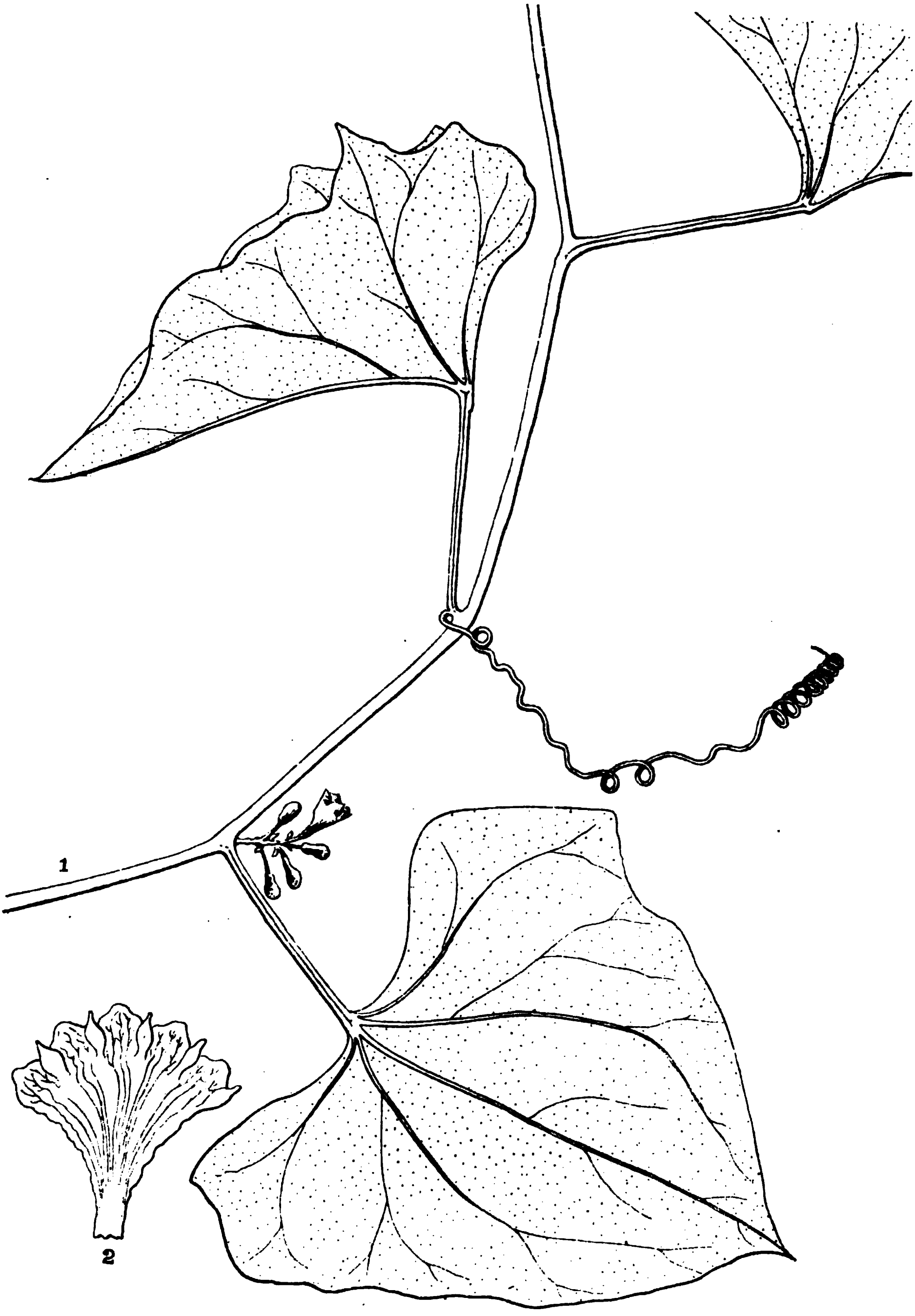
(See page 309.)

FIEI

PL. XX. CORALLOCARPUS MILLSPAUGHI COGN.

1. Portion of the plant, natural size.
2. Perianth, exterior, enlarged.

(See page 322.)



CORALLOCARPUS MILLSPAUGHI, Cogn.

PL. XXI. OUTLINE MAP OF THE PENINSULA OF YUCATAN.

Very little indeed, is known of the peninsula east of the 10th degree of longitude, or south of the 20th degree of latitude (Washington). The whole area of the State of Yucatan north of 19° 30′ is a vast, nearly level, dry plain, having nowhere an altitude much exceeding 100 feet above the sea level.

PL. XXI. OUTLINE MAP OF THE PENINSULA OF YUCATAN.

FIELD COLUMBIAN MUSEUM
PUBLICATION 25
Botanical Series. Vol. 1, No. 4.

CONTRIBUTION III
TO THE
COASTAL AND PLAIN FLORA
OF
YUCATAN.

BY

CHARLES FREDERICK MILLSPAUGH, M. D.
Curator, Department of Botany.

CHICAGO, U. S. A.
January, 1898.

CONTENTS.

I.

Plants Collected by Dr. Geo. F. Gaumer in 1895–96, Dr. Arthur Schott in 1864–66, and Mr. Witmer Stone in 1890.

II.

Notes and New Species—Prof. Ludwig Radlkofer; A New Myginda—Dr. Theodor Loesener; and additional notes and species by the author.

Third Contribution to the Coastal and Plain Flora of Yucatan.

CHARLES F. MILLSPAUGH, M.D.

Since the issue of the second of these contributions, this Museum has been so fortunate as to secure from the widow of the late Dr. Arthur Schott, his entire herbarium, which includes about nine hundred Yucatan plants collected by him in 1864–66 while engaged by the Mexican Government to make a geologic survey of the Peninsula. This collection is of great importance, it being the first really comprehensive attempt to collect the flora of this region. It is, however, to be regretted that Dr. Schott's idea of numeration should have been that of numbering his collections at home, instead of in the field, and attempting to group his species of whatever habitat under certain arbitrary numbers, before such species had been positively ascertained. This will cause conflict between many of the numbers published in these contributions and those in the herbaria of the National Museum and Kew, where part sets of these plants have been previously deposited by him. A majority of his plants are included in this contribution.

In 1890 an expedition was sent into Mexico under the auspices of the Academy of Natural Sciences of Philadelphia, and in charge of Prof. Angelo Heilprin. The work extended from the Orizaba region to the Peninsula of Yucatan, where Mr. Witmer Stone, the Ornithologist of the party, incidentally collected about three hundred plants. These were approximately determined by the late Mr. J. H. Redfield and distributed, as about ninety-five species, in the herbarium of the Academy, whence they have been kindly reassembled by Mr. Stewardson Brown, and communicated to me for study by the Academy. These species, so far as determined at this time, are also included here.

Even a limited opportunity to examine the collections at the herbarium of Columbia University convinces me that the collection made by the Hon. E. P. Johnson in Yucatan and Tabasco, in 1848, is of considerably greater proportions than Professor Helmsley reports in the botanical volumes of the Biologia Centrali-Americana. Only a patient overhauling of the whole herbarium can definitely settle the question of the species in this collection. A few genera in Leguminosæ revealed several plants which I have incorporated in the following list.

Dr. Geo. F. Gaumer has continued his collections during the past year. These, so far as determined, form the basis of this contribution, and appear in the text in parenthesized numerals in the body type—the numbers of other collectors being in *italics*.

To the above collections are added, in the following list, a few hitherto unclassified numbers collected by the author in 1887, and in 1895 while a member of the Allison V. Armour expedition, and the remaining numbers of Sr. Porifirio Valdez' century of "Medicinal Plants" collected in 1895. As heretofore, the species appearing in **black-face** type are new to the region covered by these publications.

Those specialists who have kindly contributed to the knowledge of the species, are credited under the orders they have worked.

Plants Collected by Dr. Geo. F. Gaumer in 1895-96, Dr. Arthur Schott in 1864-66, and Mr. Witmer Stone in 1890.

FUNGI.

Lentinus villosus Klotzsch.
Merida "in a garden," E. H. Thompson (947).

LICHENES.

Ramalina calicaris farinacea Schaer. **Mex-oul.**
On shrubs, Downs at Progreso, April to Dec. 1865 (*Schott, 311*). Powdery soredia and lateral apothecia both plentiful.

Ramalina calicaris fraxinea Fr.
"Common at Progreso" (1175).

Ramalina rigida (Pers.) Tuck. Am. Lich., i. 22.
Downs of Progreso, Dec. 1865 (*Schott, 311*). On trees and shrubs; tufts large, branches attenuate elongated, tips filiform, apothecia small.

ALGÆ.

Nostoc verrucosum Vauch. Hist. Alg., 225, *fide Prof. W. G. Farlow.*
"Found in the aguada Chulubmay, nine miles east of Izamal, March" (1097).

CHARACEÆ.

Chara gymnopus A Br. *fide Prof. T. F. Allen.*
"Common in the aguadas east of Izamal" (913). An indeterminable sterile sub-species of this form.

MUSCI.

Leucobryum incurvifolium C. Muell. sp. nov.
Species optima, ab omnibus congeneribus. Foliis rotundato-obtusatis brevissime hyalino-apiculatis, definite apice incurvi valde recedens.
"Common in the forests at Buena Vista Xbac, September" (1117).

Stereophyllum (*Moneuruim*) **perpusillum** C. Muell, sp. nov.

Monoicum caespituli latissimi perpusilli taxicaulioidei pallide virides nitiduli intricati ; caulis perbrevis vage ramosus, ramis pusillus tenuibus complanatulis ætate albescenti-viridibus madore parum turgidulis; folia caulina minuta in axi crassuisculo pallide virente laxe horride conferta humore regulariter patula plagiothecoidea, e basi angustiore ad alam unicam cellulis nonnullis parenchymaticis pellucidis majusculis ornata anguste oblongo-lanceolata breviter acuminata acutata integerrima, nervo angustissimo mediano viridi parum carinata-concava, e cellulis parviis longiusculis angustiusculis laxiusculis mollibus chlorophyllosis reticulata; perichætialia pauca parum minore apressa longius acuminata; theca in pedicello brevi rubente inclinata ætate nutans parva oblonga sub ore valde coarctata fusca, operculo breviter conico; peristomium pro capsula robustum, dentibus externis angustis lutescentibus cristatis, internis minutis ciliatis rudimentariis.

Habitato America-centralis, Yucatan, in Sylvis proxe Izamal, 1897 (340.)

Ex habitu ad *Stereophyllum Peruvianum* (Mtze.) accedens, sed haecce species foliis multo laxius reticulatis magis acuminatis basi ad alar utrinque parenchymaticis longe differt.

FILICINÆ.*

Adiantum tenerum Swz. Prod. 135. *Culantrillo.*

"A growth 3 feet high, in a cave about one mile northwest of Izamal" (1071). At the cenote of Kickil (*Schott, 778*). Quinta Encalada, Merida, March 26, 1865 (*Schott, 92*).

ADIANTUM TRICHOLEPIS Fee.

At the ruins of Uxmal, Sept. 15, 1866 (*Schott, 687*). Cave near Calcehtok, March 11, 1890 (*Stone, 263*, in Herb. Acad. Sci., Phila.).

ANEIMIA ADIANTIFOLIA Swz.

At Teocali, and on the ruins in Mayapan, Feb. 28, 1866 (*Schott, 651*).

Aneimia bipinnata Moore.

Cenote ya Usil, Hacienda de Mucuyché Oct. 20, 1865; and Cenote de Uayma, March, 1866 (*Schott, 677*).

ASPIDIUM TRIFOLIATUM Swz. Syn. 43.

"Growth 3 feet high, abundant in a large cave at Buena Vista Xbac, November" (994). Cenote de Sta. Ana, Valladolid, March, 1866 (*Schott, 782*, immature specimens from same locality, *780*). Cave near Calcehtok, March 11, 1890 (*Stone, 261*, in Herb. Acad. Sci., Phila.).

---

*Determined by Mr. George E. Davenport.

Asplenium dentatum Linn.
At the Cenote de Telchaguillo, March 1, 1866 (*Schott, 747*).

ASPLENIUM PUMILUM Swz. **Sisalchen.**
Quinta de Obispo, Merida, Nov. 15, 1864 (*Schott, 11.*)

CHEILANTHES MICROPHYLLA Swz. Syn. Fil. 127.
On walls at Merida, Oct. 4, 1865 ; and at the ruins of Uxmal, Sept. 16, 1865 (*Schott, 686*). In well near Izamal, Feb. 28, 1890 (*Stone, 253*, in Herb. Acad. Sci., Phila.).

Hemionitis palmata Linn. Sp. Pl., 1535.
"Growth 8 inches high, common in the dense forests of Buena Vista Xbac" (1072).

Phegopteris rudis.
A single young frond, apparently of this species, was collected by Dr. Schott with his specimens of P. tetragona, (*631*) at the Cenote de Sacalum, Sept. 18. 1865.

Phegopteris tetragona Mett. Fil. Hort. Lips., 84.
"A growth 16 inches high, common on the walls of a cenote about 12 miles east of Izamal" (995). Dr. Gaumer sends another specimen of this species under the number (993) remarking: "Fern 2 feet high, occasionally seen in cultivation, and said to grow wild," which wild state is proven in his 995. Cenote de Sacalum, Sept. 18, 1865 (*Schott, 631*).

Polypodium incanum Swz. Fl. Ind. Occ., iii., 1645.
"Found growing upon the branches of Lysiloma latisiliqua at Buena Vista Xbac, in September, not seen again" (1110).

POLYPODIUM LYCOPODIOIDES Linn.
Climbing trees at the cenote of Kikil, March 27, 1866 (*Schott, 768*).

POLYPODIUM PHYLLITIDIS Linn.
At the cenote Mascabicú, March, 1866 (*Schott, 781*).

Polypodium reptans Swz.
At the cenote Uayma, March, 1866 (*Schott; 779*). Cave near Calcehtok, March, 11, 1890 (*Stone, 264*, in Herb. Acad Sci., Phila.).

SALVINIACEÆ.

Salvinia auriculata Aub. *fide Prof. Underwood.*
"Found floating upon the surface of the water of many of the aguadas near Izamal, November" (1007). Smaller than usual and sterile; probably young plants.

LYCOPODINÆ.

SELAGINELLA LONGISPICATA Underw. Field Col. Mus. Bot., i., 287.
Small but typical plants from Nohcacab, Nov. 1865 ; and Merida, Sept. 1865 (*Schott, 669.*)

CYCADACEÆ.

Cycas circinnalis Linn. Sp. Pl., 1658. *Teoiczotl.*
Cultivated at Merida, March 11, 1866, not in flower (*Schott, 748.*)

GRAMINEAE.*

Andropogon hirtiflorus Kth. Revis. Gram., ii., 569.
"Tekax, on old fields, 3 feet high, Sept." (1134.)

Andropogon semiberbis Kth. Enum., 489.
"Two feet high, abundant on stone walls; house roofs and on the ancient ruins, rare in fields, about Izamal," Nov. (1037.)

Andropogon sorghum Drummondii Hack. de C. Monog. Phan. vi., 507.
"Three feet high, in an old field at Buena Vista Xbac," April (1053.)

Anthephora elegans Schreb. Besch. Græs., ii., 105.
"Common in old fields near Izamal, 1 foot high." Oct. (1030). Merida, Sept.; and Hacienda San Rafael, Oct. 1865 (*Schott, 549*).

Aristida nigrescens Presl., Rel. Hænk., i., 223.
Merida, Aug. and Oct. 1865 (*Schott, 601, 656 in part*).

Arundo Donax Linn. Sp. Pl., 81.
"Common on the coast in aguadas and cenotes, often cultivated. 20 feet high" (1141).

Bouteloua Americana (Sw.) Scribn. loc. cit. 306.
Aristida Americana Sw. Obs. 41, t., f. 2; 1791 ex Kunth.
Sinebra repens H. B. & K. Nov. Gen. et. Sp., i. 172, t. 52; 1815.
"Brushlands near Izamal, uncommon, 3 feet high." Oct. (1036).

Bouteloua bromoides Lag., Gen. et Sp. Nov., 5.
Merida, Sept., Oct. and Nov., 1865; and at the ruins of Uxmal Sept. 16, 1865 (*Schott, 656, 742, 659*). Depauperate specimens from Tekanto, Feb. 28, 1890 (*Stone, 189*, in Herb. Acad. Sci. Phila.)

Bouteloua disticha (H. B. K.) Benth. Jour. Linn. Soc. xix., 105.
Polyodon distichum H. B. K. Nohcacab, Nov. 24, 1865 (*Schott, 741*). Presl. referred this to *Bouteloua bromoides* H. B. K.

BOUTELOUA TRIÆNA (Spreng.) Scribn. Proc. Phila. Acad. 1891, 307.
Triæna racemosa H. B. K. "Two feet high; uncommon on old fences and low shrubbery, upon which it depends for support." Izamal, Aug. (1026). Nohcacab, Nov. 24, 1865 (*Schott, 740*) Tekanto, Feb. 25, 1890 (*Stone, 210*, in Herb. Acad. Sci. Phila.).

For synonomy see p. 10, Contrib. I.

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*Determined by Prof. F. Lamson-Scribner.

Cenchrus echinatus Linn. Sp. Pl., 1050.
To be compared with *C, viridis* Spreng., which Griesebach refers to *C. echinatus* as a variety. "Very abundant on cultivated lands near Izamal, 18 inches high" (1084). Merida, Aug. 1865 (*Schott, 498* in part).

CENCHRUS PALLIDUS Fourn., Mex. Pl. Enum. Gram., 50. **Mul.**
Merida, July and Aug. 1865 (*Schott, 596, 498*). Schott's *596* equals Liebmann's *465*.

Chloris barbata Sw. Fl. Ind. Occ., i. 200.
"Abundant on stone walls near Izamal, 18 inches high." (1085).

Chloris ciliata Sw., Prod. Veg. Ind. Occ., 25.
Merida, Aug. 3, 1865 (*Schott, 383*). Calcehtok, Mar. 11, 1890 (*Stone, 274*, in Herb. Acad. Sci. Phila.).

Chloris elegans H. B. K., Nov. Gen. et Sp. i. 166.
At Sacalum, Sept. 18, 1865 (*Schott, 632*).

COIX LACHRYMA-JOBI Linn. Sp. Pl. 972.
"Izamal. One plant came up spontaneously in my yard in 1894, and produced a quantity of seed; this was followed in 1895 by several plants springing up in the same place and producing a great quantity of seed; but none came up in 1896" (1031). See p. 9 spec. cit.

CYNODON DACTYLON Pers., Syn. Pl., i. 85.
At the hacienda Saragossa, Sept. 8, 1865 (*Schott, 737*).

Dactyloctenium Ægyptiacum (L.).
Merida, Aug. and Sept. 1865 (*Schott, 734*). *Cynosurus Ægyptius* Linn.

Distichlis spicata (L.). Greene Bull. Calif. Acad., ii. 415.
Uniola spicata Linn. Celestun, May 13, 1865 (*Schott, 494*).

ELEUSINE INDICA Gaertn. Fruct., i. 8.
"Abundant in shady places near Izamal, 15 inches high" (1086). Merida, Aug. and Sept. 1865 (*Schott, 593* in part, *738*).

ERAGROSTIS CILIARIS Link. Hort. Berol., i, 192.
Yucatan loc. ignot. (851). Merida, at Quinta del Obispo, Nov. 24, 1864, and Sept. 5, 1865; and at the ruins of Uxmal, Sept. 16, 1865 (*Schott, 20. 619*). Tekanto. Feb. 27, 1890 (*Stone, 187*, in Herb. Acad. Sci. Phila.).

Eragrostis elongata Jacq. Ec. Gram., t. 3.
Sublitoral at Sisal, Oct. 24, 1865 (*Schott, 640*). Compares with specimens in the Bernhardi herbarium, labeled by Presl.

Eragrostis plumosa Link, Hort. Berol., i. 192).
Merida at Quinta del Obispo, Nov. 1864, and Sept. 1865 (*Schott, 59*).

Guadua latifolia H. B. K.? Syn. Pl. i. 254.
Merida, Jan. 1866, lacking inflorescence (*Schott, num. amiss.*).

Gouinia latifolia (Griseb.) Vasey. Rose in Contrib. Natl. Herb., i. 365.
Tricuspis (Neuroblepharum) *latifolium* Griseb., Pl. Lorentz, 259. Nohcacab, Nov. 25, 1865 (*Schott, 703*).

Gouinia virgata (Presl.) Scribn. U. S. Dept. Agr. Div. Agrost. Bull. 4, 10.
Bromus virgatus Presl. Rel. Hænk., 263. *Gouinia polygama.* Fourn. Enum. Pl. Mex. Gram., 103. Tekax, Sept. (1033).

Ichnanthus lanceolatus Scribn. & Sm. **Xcanchim.**
"An erect or ascending, cæspitose, branching perennial 1 to 2 feet high, with lanceolate leaves and simple panicles of few loosely flowered racemes. Sheaths shorter than the internodes, ciliate along the margins, otherwise smooth, or the lowermost pubescent; ligule a short ciliate fringe of hairs; leaf blade 1 to 3 inches long, ¼ to ½ inch wide, lanceolate acute, smooth, many nerved, with a narrow cartilaginous margin abruptly narrowed at the base, this contraction forming in the lower leaves, especially those of the sterile shoots, a slender channeled petiole, which, like the sheaths, is ciliate along the margins. Panicle branches, erect or ascending (spreading in anthesis), 1 to 2 inches long, the uppermost shorter. Spikelets in pairs, one subsessile, the other raised on a pedicel about as long as itself. Spikelets ovate-lanceolate, acute, glabrous, about 2 lines long; first glume ovate, acute, strongly 3-nerved, one-half to three-fourths the length of the spikelet, scabrous on the mid-nerve above; second glume ovate-lanceolate, acuminate, 5-nerved, nearly clasping the similar empty third glume; base of the fourth glume surrounded by the third; fourth glume about 1.5 lines long, oblong-lanceolate obtuse, 5-nerved, very smooth and closely rolled about the palea, which is of similar texture.—"Old fields about Izamal, No. 854. George F. Gaumer, September, 1895. Yucatan." Scribner & Smith, U. S. Dept. Agric. Div. Agrost. Bull. 4, Feb. 6, 1897, p. 36. "Common in the forests of Buena Vista Xbac," Sept. (1111). This is the Panicum sp. of p. 288, these contributions.

LEPTOCHLOA MUCRONATA Kth. Rev. Gram. i, 91.
Environs of Merida (*Schott*, May 1865, *401*; July 1865, *401*, *590*; Nov. 1865, *739*.)

Oplismenus Burmannii (R. Br.) Beauv., Agrost., 54.
Orthopogon R. Br., Prod., 194. "In shady places, 3 feet high, common about the mouths of caves and around cenotes and aguadas near Izamal," Oct. (1038). Merida at the Quinta del Obispo, Nov. 1864; and Merida, July 1865 (*Schott, 55, 384*.)

In Dr. Schott's *384* and Dr. Gaumer's 1038 the spikelets are somewhat larger and the foliage larger and denser than in Dr.

Schott's 55, and some authors have referred the former to *Oplismenus cristatus* (Presl). Both forms have been referred to *O. Humboldtianus* Nees. In the Kew Index, *O. cristatus* and *O. Humboldtianus* are referred to *O. Burmannii.* Beauv.

Panicum Carthaginense Sw., Fl. Ind. Occ., i. 148.
Merida, July 11, 1865 (*Schott, 592*).

PANICUM COLONUM Linn., Syst. ed. x, 870.
At the Quinta del Obispo, Merida, Nov. 1864; and at Merida, June and July 1865 (*Schott, 42, 598*).

Panicum Crus-galli Linn. Sp., Pl., 50.
Borders of an aguada at Kanachen, March 1866 (*Schott, 832*).

Panicum divaricatum Linn. Elmg. Pl. Jam. Perg., 9.
"Common on fences in low brushlands, 4 feet high. Izamal" (1032). Merida, 8 to 9 feet high, Oct. 11, 1865 (*Schott, 675*).

Panicum divaricatum latifolium (L.) Fourn. Enum. Pl. Mex. Gram., 33. **Sit.**
P. lanatum Sw. Griseb., Flor. Brit. W. Ind., 551. "Common along old fences and in brushlands near Izamal, Aug. to Feby." (1025.) Merida, Aug. and Sept. 1865 (*Schott, 600*).

PANICUM FUSCUM Sw., Prod. Veg. Ind. Occ., 23.
Merida, May and June 1865 (*Schott, 384*).

Panicum lanatum Rottb. Act. Lit. Univ. Hafn., i. 269.
P. insulare Meyer., *P. leucophæum* H. B. K. Merida, 1865 (*Schott, 94*).

Panicum marginatum (Link) not R. Br., nor Vahl.
Digitaria marginata Link. Hort. Berol., i, 102. *Panicum Linkianum* Kth. Gram., i. 33. "Common in waste places near Izamal, 3 feet high, Nov." (1034.) Merida, Aug. 27, 1865 (*Schott, 609*).

Panicum maximum Jacq. Ic. Pl. Rar., i, t. 13. *Sacate Guinea.*
P. jumentorum. Pers. Syn., 83. "Common in cultivation, growing from 6 to 8 feet high. Izamal, June" (719). Merida, Aug. 20, 1865 (*Schott, 595*).

PANICUM SANGUINALE Linn. sp. Pl. 57.
Yucatan, loc. ignot. (1029). Merida Aug. 20; ruins of Uxmal, Sept. 16, 1865 (*Schott, 586, 735*).

Paspalum elongatum Griseb. Pl. Lorentz., 260.
Merida, Aug. 3, 1865 (*Schott, 593*). This specimen agrees with *1306* Bang's Bolivian collection of May 1892.

Paspalum lentiginosum Presl.? Rel. Haenk., i. 218.
Merida, July 11, 1865 (*Schott, 597*). Allied to *P. paniculatum* Linn. Spikes 4 to 5 slender, 1.5 to 2.5 in. long, the lower ones remote.

Paspalum paspaloides Pers. Syn., 81.
"Izamal, common in old fields, 3 feet high, Oct." (1027).

Paspalum vaginatum Sw., Prod. Veg. Ind. Occ., 21.
In fresh water at the aguada and Cenote de Nabulá on the Hacienda Chablé, Aug.; and salt swamps near Sisal, Nov. 1865 (*Schott, 546, 733*).
This species appears to me distinct from *P. distichum* Linn.

SETARIOPSIS AURICULATA (Fourn) Scribn., Field Col. Mus. Bot., I. 289.
Merida, July and Aug.; and Hacienda Saragossa, Sept. 1865 (*Schott, 592, 591, 621*).

Streptachne tenuis H. B. & K., Nov. Gen. et sp., i, 124.
Aristida tenuis Kth. Rev. Gram., i, 62. "Uncommon among low shrubbery along old fences near Izamal, 3 feet high. Aug." (1024.) Merida, Sept. 1865 (*Schott, 736*).

Under the number *594* Dr. Schott collected in the Aguada de Labcah in July 1865, a portion of a gramineous species near *Arundinaria*, to which he applies the Yucatec name *Cañote*, also *547* from gardens at San Rafæl de Xteppen, an *Andropogon*. Neither specimen bears flowers nor fruits, in fact no portion of an infloresence. With these two the above list includes all the gramineæ in the Yucatan portion of his herbarium.

CYPERACEÆ*.

Cyperus Sp.
Prox. *speciosus*. "Height 3 feet, common in moist, shady places near Izamal." (1035).

CYPERUS OCHRACEUS Vahl. Enum. ii., 325.
Yucatan loc. ign. (1028).

Cyperus rotundus Linn. sp. Pl., 67?
"One foot high, common in moist places near Merida" (1088).

Cyperus squarrosus Linn, Cent. Pl., ii. 6.
"Six to 10 inches high, common in old fields near Izamal" (1023).

Rynchospora micrantha Val. Enum. ii., 231.
"One foot high, common in the forests of Buena Vista Xbac, September" (1115).

PALMÆ.

Acrocomia Mexicana Karw. Mart. Hist. Nat. Palm, iii. 285 *Cocoyol.*
Merida, Dec. 1865 (*Schott, 805*). "Next to the Coco the tallest and most graceful palm of the region."

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*Determined by Prof. N. L. Britton.

Attalea Cohune Mart. in Palmet. Orb., 121. *Caraso.*
Cult? Hacienda Oxcom, Feb'y 4, 1866 (*Schott, 726* in Herb. U. S. Nat'l Mus.).

Chamædorea gracilis Willd. Sp. Pl. iv. 800. **Xiat.**
"Palm 20 feet high, abundant at Xcholac and Buena Vista Xbac, flowering from Feb'y to March" (420). Ruins of Nohpat, Nov. 24, 1865 (*Schott, 719*).

COCOS NUCIFERA Linn. Sp. Pl., 1658.
Cult. Merida, Dec. 1865 (*Schott, 712*).

Phœnix dactylifera Linn. Sp. Pl., 1658.
Cult? at the Rancho San Joaquin, near Mayapan, March 1, 1866 (*Schott, 749*).

SABAL MEXICANUM Mart Hist. Nat. Palm., iii 246. **Xaan.**
"A very common tree in the forests of the peninsula, flowering throughout the year" (317). Merida, Jan'y, 1866 (*Schott, 802*).

Thrinax argentea Lodd. Desf Cat. Hort. Par., iii. 31. **Chit.**
Downs at Progreso, Dec. 22, 1865 (*Schott, 293, 721*).

ARACEÆ.

Arisæma sp.
"In moist places, forests about Izamal" (1091).

Arum Italicum Mill. Gard. Dict., ed. viii, n. 2.
Merida Cult? March to June, 1865–6 (*Schott, 489*).

Caladium bicolor Vent. Jard. Cels., t. 30. *Papagayo.*
Merida, June, 1865 (*Schott, 434*).

Philodendron trifoliatum.
Mayapan, Feb'y 28, 1866 (*Schott, 836*).

LEMNACEÆ.

WOLFFIA BRAZILIENSIS Wedd. An. Sc. Nat., 1849. 170.
Hacienda de San Rafael Xteppen, July 7, 1865, and Hacienda de Chablé, Aug. 8, 1865 (*Schott, 541*).

BROMELIACEÆ.

ÆCHMEA BRACTEATA (Sw.) Mez. de C. Monogr., ix. **Xkeo.**
"Six feet tall, abundant in the forests about Izamal, producing its yellow flowers from Feb'y to June" (419). Road to Progreso, April 7, 1865 (*Schott, 274*).

BROMELIA PINGUIN Linn. Sp. Pl., 285. **Oalbay.**
Aguada Calatcapek, April 2, 1866 (*Schott, sine. num.*).

Karatas Plumieri E. Morr. Belg. Hortic, 1872, 131. *Pinuela.* **Chom.**
Merida, June 19, 1865 (*Schott, 558*).

Tillandsia brachycaulos Schl. in Linnaea., xviii, 422. **Mis.**
"Herb 12 inches high, abundant on trees near Izamal, producing its royal-purple flowers in June" (742). Merida, July, 1865 (*Schott, 557*).

TILLANDSIA FASCICULATA LATISPICA Mez. de C. Monogr. Phan, 9.
Merida, March 10, 1865 (*Schott, 435*). **Xolohbenal.**

TILLANDSIA RECURVATA Linn. Sp. Pl., ii, 410.
Merida, Nov. 13, 1864 (*Schott, 35*).

Tillandsia setacea Sw. Fl. Ind. Occ. i, 593.
Merida, July 11, 1865 (*Schott, 842*).

TILLANDSIA STREPTOPHYLLA Scheidw. Hort. Belge. iii, 252.
Merida, June 26, 1865 (*Schott, 349*).

TILLANDSIA UTRICULATA Linn. Sp. Pl., ed. ii, 411.
Merida, July 28, 1865 (*Schott, 556*).

TILLANDSIA VESTITA Cham. & Schl. Linnæa vi, 52.
Merida, Dec. 11, 1864 (*Schott, 161*).

COMMELINACEÆ.

CALLISIA REPENS Linn. Sp. Pl., 62.
Merida (*Schott sine. num.*) ; loc. ign. (*Schott, 151*). "Herb 18 inches to 2 feet, abundant in fields and forests about Izamal, its blue flowers appearing throughout the year" (376). "Prostrate 3 feet, rooting at the joints (1079).

Commelina nudiflora Linn. Sp. Pl., 4.
Merida. Nov. 30, 1864 (*Schott, 32*).

Commelina pallida Willd. Hort. Berol. ii, 87.
Collected by Dr. Gaumer near Izamal together with Callisia repens No. 376.

RHOEO DISCOLOR (L. Her.) Hance, Walp. Ann., iii, 659. **Chac-Oam.**
Merida, Feb'y 11, 1865; Ruins of Labcah near Hacienda Chemax, July 30, 1865 (*Schott, 239, 564*).

Spironema fragrans Lindl. Act. Soc. Sc. Fenn, x, 127.
"One foot high, rare at Xcholac, producing its white flowers in March" (421).

Zebrina pendula Schniz. in Bot. Zeit vii, 870.
"Ascending 3 feet, commonly cultivated at Izamal, producing its bright blue flowers from August to March" (412).

LILIACEÆ.

Smilax Gaumerii sp. nov. **Xcoché.**

Stem cylindrical, striate, climbing 25 feet, armed with strong triangular-flattened prickles, mostly in pairs opposite the branches, sometimes slightly curved at the points; branches subcylindrical, striate, more or less zig-zag, aculeate; leaves ovate-lanceolate, taper-pointed, mucronate, oblique at the base, strongly reticulate-veined above and below, 3-nerved, the mid rib furnished with 1-2 recurved prickles; petioles short, jointed at the middle and furnished with a stout recurved prickle at the joint; stipules sheathing, often aculeate and sometimes prolonged into light grey ligneous tendrils. Inflorescence axillary, globular, peduncle about half the length of the pedicels. Leaves 1 to 2.5 inches long, .5 to 1 inch broad, petioles .25 inch long, stem prickles .25 to .36 inch long. Frequent on forest and brush lands about Izamal, June (687).

AMARYLLIDACEÆ.

YUCCA YUCATANA Engelm Trans. Acad. St. Louis iii. 37.
Ruins of Nohpat, Nov. 24, 1865 (*Schott*, *706*).

Zephyranthes Lindleyana Herb. Amaryll. 174. t. 35. f. 5.
"Herb 8 inches high, very abundant in the town of Izamal, opening its sulphur-yellow flowers in September (836).

DIOSCOREACEÆ.

Dioscorea alata Linn. Sp. Pl., 1033.
Hacienda San Rafael Xteppen, Cult?, Aug. 7, 1865 (*Schott*, *548*).

Dioscorea calyculata Donnell-Smith, Bot. Gaz. xx, 295.
"Vine 40 feet, common on vacant and waste lands where it flowers in November" (931).

Dioscorea floribunda Mart. & Gal., Bull. Acad. Brux., ix, 391.
"Vine 20 feet, common on brush lands, Nov." (925, 926).

Dioscorea macrostachya Bth., Pl. Hartw., 73.
"Vine 12 feet, abundant on brush lands, Sept." (794).

Dioscorea polygoniodes H. & B., Willd., Sp. Pl., 795.
"Vine 20 feet, common on brush lands, Nov." (928).

Dioscorea sativa Linn. Sp. Pl., 1033. *Bolador.*
"Vine 60 feet, rarely cultivated; blooms in October, and produces at every leaf an edible fruit resembling the potato, the large tuberous root is also eaten" (920).

MUSACEÆ.

MUSA SAPIENTUM Linn. Sp. Pl. 1477. **Haas.**
Merida at the Quinta del Obispo July to September, 1864-5 (*Schott, 849*).

CANNACEÆ.

Canna edulis Ker-Gawl Bot. Reg. ix, t. 775.
"Common in cultivation at Izamal where it flowers from July to March" (963).

PIPERACEÆ.

Piper auritium H. B. K., Nov. Gen. & Sp., i. 54. **Xmacolan.**
Merida at the Quinta del Obispo, Nov. 25, 1864 (*Schott, 183*). Abundant about Merida (*Valdez, 80*).

CASUARINACEÆ.

CASUARINA EQUISETIFOLIA Linn. Amoen. Acan., iv. 143. *Cipres.*
A cultivated tree 100 feet high, loc. ign. (945). Merida Dec. 1864 (*Schott, 60*).

MORACEÆ.

ALICASTRUM BROWNEI Kuntze, Rev. Gen., 623.
Brosimum Alicastrum Sw. Merida, June 25, 1865; Hacienda Xteppen, July 7, 1865 (*Schott, 555, 561*). Tekanto, Mar. 9, 1890 (*Stone, 225*, in Herb. Acad. Sci., Phila.).

Artocarpus incisa Linn. f. Suppl., 411. *Arbol de Pan.*
Cult? Hacienda Taulum, Dec. 1865. (*Schott, 816*).

Castilloa elastica Cerv. Supl. Gaz. Lit. Mex., 7. *Hule.*
Cult? Hacienda de Kanachen, March 1866 (*Schott, 777*).

Cecropia obtusa Trec. Ann. Sc. Nat., 1847, 79. **Xcoochlé.**
Ruins of Uxmal, Sept. 15, 1865 (*Schott, 639*).

Chlorophora tinctoria (L) Gaud. Freyc. Voy. Bot. 1826.
Morus tinctoria L., *Maclura tinctoria* Don. Male tree at Merida July 3, 1865 (*Schott 517*); female at the Aguada de Labcah, near the Hacienda de Chemax, July 30, 1865 (*Schott, 607*).

DORSTENIA CONTRAJERVA HOUSTONIANA Bureau. **Xcampahuy.**
Merida at Quinta del Obispo, Nov. 24, 1864 (*Schott, 46*).

Ficus sp. **Saccabah.**
Aguada de Calotyaxek, leaves only, March 1866 (*Schott, 783*).

Ficus Bonplandiana Miq. An. Mus. Bot. Lugd., iii, 298.
Golondrino. Alamo.
Cult? at Celestun, May 12, 1865 (*Schott, 352*).

FICUS LONGIPES Miq. loc. cit. *Copó. Alamo.*
At the Hacienda de San Rafael Xteppen Aug. 7, 1865 (*Schott, 846*).

MORUS CELTIDIFOLIA H. B. K. Nov. Gen. et sp., ii, 33.
Merida (*Schott, 847*).

URTICACEÆ.

Urera baccifera (L.) Gaud. in Freyc. Voy. Bot., 497. **Laal Oimin.** *Ortega de Caballo.*
"Common on the ancient mounds, and frequently cultivated for hedges near Izamal, November, but often out of season" (936). Our plant agrees with Regnell's *410*, Minas Geraes, Brazil; and Rusby's *1467*, Mapiri, Bolivia.

URERA MICROCARPA Wedd Arch. Mus. Par., ix, 156. **Laal.** *Ortega de los Caballos.*
Tizimin, March 28, 1866 (*Schott, 796*).

ARISTOLOCHIACEÆ.

ARISTOLOCHIA BREVIPES, Benth. pl. Hartw., 15. *Guaco.*
Merida, Nov. 29, 1864; Aug. 30, 1865 (*Schott, 426*). Ɔitas March 31, 1866 (*Schott, 839*).

Aristolochia maxima Jacq. Enum. Pl. Carib. 30. *Guaco del Sur.*
Nohcacab, Sept. 1865 (*Schott, 789*).

POLYGONACEÆ.

ANTIGONON LEPTOPUS Hook. & Arn. Bot. Beech. Voy., 308. *Flor de San Diego.*
"Vine 60 feet, common in cultivation, often also found growing wild, flowers profuse and showy" (1132). Over old fences about Merida, Apr. 14, 1887 (*Millspaugh, 43*). Merida, Nov. 1865 (*Schott, 51*).

PODOPTERUS MEXICANUS H. & B. Pl Æquin. ii, 89. **Sacioa.**
Merida June 16, 1865 (*Schott, 487*).

CHENOPODIACEÆ.

ATRIPLEX CRISTATA Humb. & Bonpl.? ex Willd. Sp. Pl. iv 959.
"Common on the beach at Progreso" (1169). Our plant does not exhibit the serrations of the leaf given in the description, being sub-entire.

Chenopodium album Linn. Sp. Pl., 319. *Quilites.*
"Herb 6 to 10 feet high, often observed in cultivation and escaped into fields where, however, it finally dies out" (1065).

Salicornia Bigelovii Torr. Bot. Mex. Bd.; 184.
S. mucronata Bigel. non Lag. "Shores of lagoon at the Port of Silam" (633). Celestun, May 12, 1865 (*Schott, 297*).

Suaeda fruticosa Forsk, Fl. Æg. Arab. 70.
"Herb 2 feet high, common at Progreso" (1172).

AMARANTACEÆ.

Alternanthera obovata (Mart. & Gal.)
"Herb 2 feet high, rare, only one clump seen, and that in the Plaza de los Remedios at Izamal, where it flowers from September to January" (905).

Alternanthera repens (L) Kuntze Rev. gen. Pl., 540.
"Prostrate herb 2 to 8 inches, infrequent, roadside six miles east of Izamal, April" (1070).

ALTERNANTHERA STRAMINEA (Mart.) Millsp. Field Col. Mus. Bot. i, 16.
Calcehtoh, March 11, 1890 (*Stone, 266* in Herb. Acad. Sci., Phila.).

AMARANTUS HYBRIDUS Linn. Sp. Pl., 1406.
"Herb 8 to 12 feet high, common in old fields about Izamal, flowering in December" (1081). The densely flowered, congested-paniculate form. Merida, July 1, 1865 (*Schott, 817*). Calcehtoh, March 11, 1890 (*Stone, 262*, in Herb. Acad. Sci., Phila.).

GOMPHRENA DECUMBENS Jacq. Hort. Schœnber., t. 482.
Merida, Aug. 20, 1865 and Nov. 15, 1864 (*Schott, 82,818*) Tekanto, Feb. 27, 1890 (*Stone, 221*, in Herb. Acad. Sci., Phila.).

Gomphrena globosa Linn. Sp. Pl., 224.
The white-flowered form Merida Jany. 14, 1866 (*Schott, 731*); the purple-flowered form from the same locality (*Schott, 730*).

IRISINE CELOSIOIDES Linn. Sp. Pl., 1456.
"Climber 15 feet, abundant in open wild lands, near Izamal, and occasionally seen in cultivation, April" (1078).

Kokera paniculata (L.) Kuntze Rev. Gen. Pl., 542.
Chamissoa H. B. K. "A scandent shrubby plant 10 feet high, common near the aguada de Xcholac, flowering in November" (1011).

PHILOXERUS VERMICULATUS (L.) R. Br. Prod., 416.
Celestun May 13, 1865 (*Schott, 380*).

PHYTOLACCACEÆ.

PETIVERIA ALLIACEA Linn. Sp. Pl., 486. *Zorilla.*
Suburbs of Merida, Nov. 14, 1864 (*Schott, 31*).

NYCTAGINACEÆ.

ALLIONIA VIOLACEA Linn. Syst., ed. x, 890.
Hacienda Sooil northeast of Merida July 30, 1865 (*Schott, 531*).

BOERHAAVIA ERECTA Linn. Sp. Pl., 4.
"Erect, flowers lilac, Merida June 12, 1865 (*Schott, 478*) Tekanto, flowers pink, Feb. 27, 1890" (*Stone, 214*, in Herb. Acad. Sci., Phila.).

Bœrhaavia scandens Linn, Sp. Pl., 4.
"Procument, flowers yellow, calyx glandular, Merida, June 12, 1865" (*Schott, 21*).

MIRABILIS JALAPA Linn. Sp. Pl., 252.
Campo, suburbs of Uman, April 1887 (*Millspaugh, 36*).

PISONIA ACULEATA Linn. Sp. Pl., 1511.
Merida suburbs. In flower Dec. 1864; in fruit Feby. 1865 (*Schott, 143*). Ticul, bush 6 ft., flowers greenish-yellow, fragrant, March 16, 1890 (*Stone, 285*, in Herb. Acad. Sci., Phila.).

PORTULACACEÆ.

PORTULACA OLERACEA Linn. Sp. Pl. 638.
"Abundant on cultivated grounds, producing its yellow flowers in profusion from July to February" (1001).

PORTULACA PILOSA Linn. Sp. Pl. 639.
Merida suburbs, Dec. 1864, July 1865 (*Schott, 150*).

SESUVIUM PORTULACASTRUM Linn. Sp. Pl., 684. **Oaican.**
Celestun May 1865 (*Schott*, 488).

NYMPHÆACEÆ.

CASTALIA AMPLA (De C.) Salisb. Parad. Lond., 1805. 73.
Aguada de Labcat near Merida July 30, 1865, and Aguada de Xcholac, March 1865 (*Schott, 528*).

ANONACEÆ.

ANONA MURICATA Linn. Sp. Pl., 536. *Guanabano.*
Cult? Quinta del Obispo, Merida, (*Schott, sine num*).

Anona palustris Linn. Sp. Pl., ed. ii., 757. *Corcho.* **Mag.**
Aguada Calotyaxek, *sine die* (*Schott, 19*).

ANONA SQUAMOSA Linn. Sp. Pl., 537. *Saramuyo.*
Merida, cult? June 18, 1865 (*Schott, 497*), Hacienda Taulum, Dec. 1865, not in flower (*Schott, 820*).

MENISPERMACEÆ.

CISSAMPELOS PAREIRA Linn. Sp. Pl., 1473.
Campo about Merida, in full flower June to Nov. 1864–5 (*Schott, 91, 500*).

LAURACEÆ.

CASSYTHA FILIFORMIS Linn. Sp. Pl., 530.
Climbing over *Conocarpus erectus* at Sisal Nov. 10, 1865 *Schott, 698*).

PERSEA GRATISSIMA Gaertn. Fruct., ii. 222. **On.**
Cult ? Merida, Feb. 6, 1865 (*Schott, 203*).

PAPAVERACEÆ.

ARGEMONE MEXICANA OCHROLEUCA Lindl. Bot. Reg., t. 1343.
Suburbs of Merida, Jan. 27, 1865 (*Schott, 198*).

CRUCIFERÆ.

CAKILE MARITIMA Scop. Fl. Carn., ed. 2. ii, 35.
C. aequalis L'Her. Celestun, May 13, 1865 (*Schott, 376*).

Raphanus Raphanistrum Linn. Sp. Pl. 669.
"Eighteen inches high. A large number of plants came up in the plaza of Izamal in February, 1896, just after Orin's circus troupe had camped a week on the same place, and as they fed American and Mexican hay to their animals it is probable that the seed of this plant was introduced by them. Later the plant was taken under similar circumstances in Merida" (1064).

CAPPARIDACEÆ.

Capparis Cynocephallophora Linn. Sp. Pl., ed. ii, 721. **Xbayunak.**
Merida, May 6, 1865 (*Schott, 351*).

CLEOME SPINOSA Jacq. Enum. Pl. Carib., 26.
Merida, April 13, 1865 (*Schott, 329*).

CRATÆVA GYNANDRA Linn. Sp. Pl. ed., ii, 636.
Merida (Cult ?), Dec. 1864; Feb'y 1865 (*Schott, 156*).

MORINGACEÆ.

MORINGA APTERA Gaert. Fruct., ii, 315.
Cult. Merida at Quinta del Obispo, March 1, 1865 (*Schott, 471*).

CRASSULACEÆ.

BRYOPHYLLUM PINNATUM (Lam.) S. Kurz. Jour. Assoc. Beng., xi. 52.
Cenote of Tunkax, March 26, 1866 (*Schott, 770*).

LEGUMINOSÆ.

ACACIA FARNESIANA (L.) Willd. Sp. Pl. iv. Par., ii, 1083.

"A common tree 30 feet high in the forests about Izamal, producing its fragrant orange-yellow flowers in October." (1010.)

Our plant agrees with Schott's (*118*) Cuba (*A Cavenia* Bert.).

ACACIA SPADICIGERA Ch. & Sch., in Linnæa v. 594. **Subin.**

Merida, June and Sept., 1865 (*Schott, 392*). Xcholac common, bush 6 ft., Mar. 2, 1890. (*Stone, 248*, in Herb. Acad. Sci. Phila.)

ÆSCHYNOMENE AMERICANA Linn. Sp. Pl., 1061.

Yucatan loc. ignot. (*Johnson 45*^{b}). Yucatan loc. ignot. (*Schott, 863*).

Æschynomene Americana depila var nov.

Characters of the species, except that the loments instead of being setose-hispid (*asperis. Hirsutis.* Sloane) are perfectly smooth.

"Herb 2 feet high, abundant in damp places along roads and in open lands near Izamal Oct." (955).

To this variety the following plants are referred: *Palmer* Acapulco *102* Manzanillo *901*; *Heyde 311*, *Heyde & Lux 6103* Guatemala; *Sintenis 5560* Porto Rico; *Hitchcock* Port Marant, Constant Spr., Lucea, Jamaica; *Lloyd* Jamaica *1050*; *Wilson* Jamaica *173*. *Rovirrosa 384* Tabasco; *Botteri* 363 Orizaba, *Skinner*, Guatemala; *Wright 124* or *125* Cuba; *Bernardi Hb.* San Domingo *184*; *Anderson* Trinidad; *Hayes* Panama *767*; *Eggers 202* St. Thomas; *Fendler 1779* Venezuela; *Ricksecker 133* St. Croix; and *Donnell-Smith 2283* Esquintla. In the following specimens Mr. Greenman notes that although the loments are more or less setose-hispid in the early stages they later become essentially glabrous; *Sintenis 374*^{b} Porto Rico; *Pringle 2515* Jalisco, *Donnell-Smith 4160* Chupadero.

Dr. Rose in his enumeration of Dr. Palmer's 1890–91 Mexican collection (Contrib. U. S. Natl. Herb., 1. 321) calls attention to this form, *Palmer 901* Manzanillo.

ÆSCHYNOMENE FASCICULARIS Cham. & Schl. in Linnaea, v. 584.

"Ruins of Uxmal Sept. 16, 1865." (*Schott, 864* in Herb. U. S. Natl. Mus.) Merida June 11, 1865, and on road from Merida to Progreso May 7, 1865 (*Schott, 276*). "Shrubby, 3 feet high, common on roadsides near Tekax, in blossom September" (1126).

Amerimnon Brownei Jacq. Pl. Carib., 1760.

Dalbergia Amerimnum Benth. "A rare shrub in the forests about Izamal, its reddish-purple flowers appearing in June." (728).

Arachis hypogæa Linn. Sp. Pl., 741. Peanut.

"Herb 2 to 3 feet high, common about old farm lands near Izamal, where it blossoms in October" (997).

Bauhinia Cavanillei nom. nov. **Chacouludtok.**
Pauletia inermis Cav. Ic. t. 409, 1799; *Bauhinia inermis* (Cav.) Pers. Syn. i, 455, 1805 non Forsk. Fl. Ægypt, Arab. 85, 1775.
Nohcacab and vicinity, Nov., 1865, leaves sudorific, wood very flexible; Kabah, Nov. 24, 1865 (*Schott, 702*).

BAUHINIA LATIFOLIA Cav. Ic. v. 4, t. 405.
Tunkas, 4 feet high, flowers white; Ticul, 6 feet high, March 3 and 16, 1890 (*Stone, 228, 246 and 284,* in Herb. Acad. Sci., Phila.).

BAUHINIA PORRECTA Sw. Prod. Veg. Ind. Occ., 66.
Merida suburbs and Quinta Encalada, Nov. 29, 1864, and March 26, 1865 (*Schott, 8*).

Bauhinia splendens H. B. K., Nov. Gen. et Sp. vi, 319.
Yucatan loc. ignot., 10 to 15 feet high (*Johnson, 32, visa* in Herb. Torrey).

Bradburya Schottii sp. nov.
Caule scandente glabriusculo, foliis longe petiolatis 3-foliolatis, foliolis hastatis vel subhastatis mucronatis margine pilosis, stipellis geminiis linearis, pedicellis foliis æquantes solitariis 1–floris, bracteis ovato-lanceolatis calyce sæpe, longioribus calycis cupuliformis sub 5–fidis: lobis inferioris mȧjusculis, superioris coalitis, lateralis triangularis. Leguminibus sessilis, longe apiculatis, costæ prominente percursis inter margine et pars media, semine compressa. Caule 10 pedales, foliis et pedicellis 5 poll. long., foliolis 2.5 poll. long., 2 poll. lat., flores 1.5 poll. long., leguminis 5 to 6 poll. long., 3 lin. lat. Ad Nohpat, Nov. 24, 1865 (*Schott, 718*). Rara in umbrosis Izamal, Nov. (930).

BRADBURYA VIRGINIANA (L. Bth) Kuntz Rev. Gen., i. 163.
Yucatan, *Johnson sine num.* specimen in Herb. Torrey Columbia Univ. "Vine, 20 feet, common in brush and forest lands about Izamal, its purple flowers appearing from August until December" (833). Yucatan, loc. ignot. (*Schott, 867*).

CÆSALPINIA BONDUCELLA (L.) Flem. As.Ris., xi, 159. *Cojones del Gato.*
Celestun, near the sea, May 13, 1865 (*Schott, 402*).

CÆSALPINIA PULCHERRIMA (L) Sw. Obs., 166.
Merida, "fragrant," July 25, 1865 (*Schott, 570*). Merida, Feb. 2, 1864 (*Schott, 178,* in Herb. U. S. Nat'l Mus.). Silam (681).

CALLIANDRA GRACILIS Klotz. Saund. Refug. Bot., t. 294.
"An uncommon shrub 20 feet high, at Progreso" (1178). Merida, August, 1865 (*Schott, 844*).

CALLIANDRA PORTORICENSIS (Jacq.) Bth. Lond. Jour. Bot., iii, 99. **Pich.**
Near Hacienda Uislimchac, April 2, 1866, leaves and flowers undeveloped (*Schott, 769*).

Canavalia ensiformis (L). de C. Prod ii, 404. *Haba.*
Merida, Feb. 1, 1866, in fruit only (*Schott, 729*).

Cassia* sp.
"An interesting plant allied to *C. biflora* L, but indeterminable in the absence of fruits. The ash-colored twigs and very small leaflets do not correspond with any existing species of that group" (C. L. P.) Leaves alternate fascicled, common rachis 5–8 lines long, leaflets 3-jugal, 1–3 lines long, varying from mucronate or truncate to emarginate, stipules geminate, aristate; inflorescence solitary, sparse, from the terminal leaf fascicles; peduncle attenuate, longer than the leaf, jointed at about the middle, flowers large 4–7 lines long. Scrub lands near Sisal, May 6, 1865 (*Schott, 414*).

CASSIA BIFLORA Linn? Sp. Pl., 378.
"Probably this species, a comparison with the type is, however, necessary" (C. L. P.) Tizimin, March 28, 1866 (*Schott, 982*).

CASSIA EMARGINATA Linn. Sp. Pl., 346. **Xtuab.**
Without locality *Valdez* (7). North of Merida on the road to Progreso, April 7, 1865 (*Schott, 261*). Tunkas, tree 20 feet, flowers orange, March 3, 1890 (*Stone, 236*, in Herb. Acad. Sci., Phila.).

Cassia flavicoma H. B. K., Nov. Gen. et. Sp. vi. 366.
"A rare herb, 3 feet high, in the forests of Buena Vista Xbac, flowering in September" (1113).

Cassia hirsuta Linn. Sp. Pl., 540. **Salché.**
"A common herb, 4 feet high, in waste places and on farms and open lands about Izamal, producing its chrome-yellow flowers from July to December" (757, 1090).

Cassia leptocarpa hirsuta Benth. Trans. Linn. Soc. Lond., xxvii. 531.
"A shrub 6 feet high, common near cenotes about Izamal, the bright yellow flowers produced in October" (999); also "frequent in waste places about Izamal, where the plant often blooms several years in succession" (1016).

Cassia Liebmannii Bth. Trans. Linn. Soc., 27, 549.
Along road between Merida and Progreso, May 3, 1865 (*Schott, 299*).

CASSIA OCCIDENTALIS Linn. Sp. Pl., 377.
Nohcacab, Oct. 19, 1865 (*Schott, 975*).

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*Species determined by Mr. C. L. Pollard.

Cassia polyphylla Jacq. Coll. iv. 104. Ic. Rar. t. 460.
"In mimosetis prope Sisal" (*Schott, 414*). "Shrubby 6 feet high, in brush lands about Izamal, the golden-yellow flowers appearing throughout the year" (391). Tekanto, shrub 3 feet high, Feb. 25, 1890 (*Stone, 197, 219,* in Herb. Acad. Sci., Phila.).

Cassia procumbens Linn. Sp. Pl., 380.
On the downs at Progreso, May 4, 1865 (*Schott, 290*).

Cassia racemosa Mill. Dict. ed. 8, n. 19. **Habinpec.**
"An abundant tree 60 feet high in brush and forest lands about Izamal, producing its large globular clusters of orange-yellow flowers from February to June" (354). Merida, Aug. 30, 1865 (*Schott, 974*). Tekanto, tree 20 feet high, flowers bright orange, Feb. 25, 1890 (*Stone, 215,* in Herb. Acad. Sci., Phila.).

CASSIA SERICEA Swz. Fl. Ind. Occ., 724.
Merida, June 11, 1865 (*Schott, 440*).

Cassia tristicula H. B. K , nov. Gen. et Sp., vi, 367.
Ruins of Uxmal, Sept. 1865 (*Schott, 976*).

Cassia villosa Mill. Gard. Dict., ed. viii, 4. **Salché.**
Suburbs of Merida, Nov. 25, 1864 (*Schott, 1*).

Clitoria Mexicana Lk. Enum. ii., 235.
"Vine 10 feet, common at Tekax" (1136).

Cracca bicolor Bull. Herb. Boiss ii., 444 t. xi.
"A common herb 4 feet high, in the forests of Buena Vista Xbac, in bloom in April" (1058).

CRACCA GREENMANII Millsp. Field Col. Mus., Bot. i. 299 t. xiii.
"An ascending herb 12 to 18 inches high, abundant along roadsides about Izamal, where it is almost without exception more or less browsed by cattle. The flowers appearing throughout the year are pale yellow with a purplish standard" (301). "Abundant near Merida" (*Veldez, 69*). Tekanto, Feb. 25, 1890 (*Stone, 205, 209,* in Herb. Acad. Sci. Phila.).

CRACCA VILLOSA CINEREA (L.) Kuntze, Rev. Gen. I. 174.
Merida, Aug. 3, 1865 (*Schott, 537*).

CROTALARIA PUMILA Ortega Hort. Matr. 23.
Flats about Nohpat and Nohcacab, Nov. 1865 (*Schott, 715*).
The legume in these specimens is shortly pediceled, not sessile as noted in description. Our specimens agree fairly well with Müller Herb. Mex., *664, 1745;* and especially with Buslamente y Rocha's *19* in the Torrey Herb.

Dalea diffusa Moric. Pl. Nouv. Am. 8. t. 6.
"Abundant in old fields and on town lots near Izamal, Nov. Height 4 feet. Flowers a very evasive royal-purple, which, seen at a short distance, seems a glimmer of light between blue and crimson, always attractive" (934).

In general habit our plant agrees with Pringle (*1793*) Jalisco, 1888, and Palmer (*507*) Acapulco 1894–5, except that in the former the leaflets are smaller, narrower, more crowded and nearer entire; and in the latter still smaller than our form or the Jaliscan. Leaves in our form 1.75 to 2.25 inches long, leaflets .4 inch long, .1 inch wide, with glandular punctæ strongly marked.

DESMANTHUS DEPRESSUS H. & B. Willd. Sp. iv. 1046. **Camba-pich.**
"Ten feet high, rare about Izamal, its white flowers appearing in October" (1018).

Diphysa Carthaginensis Jacq. Enum. Pl. Carib., 28.
About Merida, March 16, 1865 (*Schott, 247*), April 20, 1865 (*Schott, 505*, in Herb. U. S. Natl. Mus.).

Diphysa robinioides Benth. ex Bth. & Oerst. l. c. 11. **Ɔuɔuc.**
"An abundant tree 60 feet high in the brush and forest lands near Izamal, where it opens its bright golden-yellow flowers in February while the leaves are immature" (344). Yucatan, without locality (*Valdez, 58*).

Erythrina Corallodendron Linn. Sp. Pl. 706.
Shrub 5 feet high, with sharp, mostly recurved prickles and crimson flowers, Tekanto, Feb. 25, 1890 (*Stone, 217*, in Herb. Acad. Sci. Phila.).

ERYTHRINA CORALLOIDES Mocq. & Sesse, ex de C. Prod. ii, 413.
Merida, Aug. 28, 1865 (*Schott, 615*). Loc. ignot. (*Schott, 921*).

Galactia multiflora Robn. Proc. Am. Acad. xxix, 315.
"Vine 20 feet, abundant in brush and forest lands about Izamal, producing its mottled flowers from September to March" (566). Also collected in conjunction with 498 in similar habitat.

INDIGOFERA ANIL Linn. Mant. 272. *Anil.* **Choh.**
"Shrubby, 4 to 8 feet high, abundant in all northeastern Yucatan, where it was at one time extensively cultivated, and whence Indigo was exported as late as 1885. To-day (1896) not one plantation exists in the neighborhood of Izamal, which place was once the center of its greatest production" (1057). Merida, Oct. 25, 1865 (*Schott, 883*).

Meibomia albiflora (Salzm) Kuntze, Rev. Gen. i, 197.
Yucatan, loc. ign. (*Johnson, 36*^{b}, *Visa* in Herb. Torrey, Columbia University).

Meibomia Neo-Mexicana (A. Gr.) O. K., Rev. Gen. i, 198. **Kintah.**
Chuburná, Oct. 10, 1865 (*Schott, 866*); herb 2 feet high, common in the forests of Tekax, September (1130); herb 10 inches, forests of Buena Vista Xbac (1118). Schott's plant and Gaumer's 1130 are glabrous, while 1118 is finely pubescent.

MEIBOMIA SCORPIURUS (Sw.) Kuntze, Rev. Gen., 198.
"Vine 4 feet, common in shady places near Izamal, October to January" (929).

Mimosa asperata Linn. Syst. ed x. 1312.
Yucatan, loc. ign. (*Johnson, 40, Visa* in Herb. Torrey, Columbia University).

Mimosa somnians Humb. & Bonpl. ex Willd. Sp. Pl. iv, 1036.
Yucatan, loc. ign. (*Johnson, 35*^{b}, *Visa* in Herb. Torrey, Columbia University).

MUCUNA PRURIENS (L.) de C., Prod. ii, 405.
Suburbs of Merida, Dec. 11, 1864, in fruit only (*Schott, 155*). "Vine 25 feet, common on brush lands and old fields, frequently also in forests about Izamal" (918).

Myroxylon peruiferum Linn. f. Suppl., 233. **Naba.**
Yucatan loc. ignot. (*Schott, 804*, in Herb. U. S. Natl. Mus.).

PAROSELA DOMINGENSIS (de C.).
Dalea Domingensis de C. Tekanto, Feb. 27, 1890, 3 feet high, flowers dull red (*Stone, 193*, in Herb. Acad. Sci. Phila.).

Phaseolus dysophyllus Benth. Pl. Hartw. 287.
"Vine 20 feet, common in the brush and forest lands about Izamal" (923).

PHASEOLUS LUNATUS Linn. Sp. Pl. 1016.
"Vine 10 feet, growth frequent in the forest lands about Izamal" (1059).

PISCIDIA ERYTHRINA Linn. Syst. ed. x, 1155. **Habi.**
Yucatan loc. ignot. (*Schott, 260*).

Prosopis juliflora (Swz.) de C. Prod. ii, 447. **Xcaɔimek.**
"Tree 40 feet high, common at the Port of Silam, producing its greenish-white flowers in April" (641).
Foliage much denser and leaflets larger than in the north Mexican and North American forms.

Pterocarpus Draco Linn. Sp. Pl. 1662. **Subinché.**
"Tree 80 feet high, common in forests about Izamal, developing its yellowish-brown flowers in February" (377).

RHYNCHOSIA MINIMA (L.) de C. Prod., ii., 385.
Ruins of Nohpat, Nov. 24, 1865 (*Schott, 718*).

Sesbania grandiflora Poir. Dict. vii., 127. *Pico de Flamingo.*
"Shrub 15 feet high, naturalized at the Port of Silam, producing its large crimson flowers in April" (670). Hacienda Chucá cult? March, 1866 (*Schott, 763*).

Sesbania macrocarpa Muhl. ex. Raf. Fl. Lud. 137.
"Herb 4 feet high, infrequent on waste lands about Izamal, flowering in September" (907).

Stylosanthes biflora (L.) B. S. P.
"Frequent at the margin of a large sarteneja on the Cantoila road northwest of Izamal" (908).

TAMARINDUS INDICA L., Sp. Pl., 48. *Tamarindo.*
Merida, May 20, 1865 (*Schott, 356*).

OXALIDACEÆ.

OXALIS BERLANDIERI Torr. Bot. Mex. Bd., 41.
Hacienda, Cucul, Sept. 8, 1865 (*Schott, 625*).

OXALIS LATIFOLIA H. B. K. Nov. Gen. et Sp., v., 237.
Merida, June 16, 1865 (*Schott, 490*). Aguada and Cenote Nabulá, Aug. 8, 1865 (*Schott, 918*).

MALPIGHIACEÆ.

Bunchosa glandulosa (Cav.) de C. Prod., i., 581. **Sipché.**
"Shrub 20 feet high, common in the forests about Izamal, the bright yellow flowers produced from February to June" (411). Suburbs of Merida, April 14, 1865 (*Schott, 84*). Tekanto, 6 feet high, Feb. 27, 1890 (*Stone, 192*, in Herb. Acad. Sci. Phila.).

Gaudichaudia filipendula Juss. *infra* iii., 594. **Chilillo-ak.**
"Common at Progreso, October" (1138).

HETEROPTERYS BEECHEYANA A. Juss. Arc. Mus. Par., iii., 475.
In fruit only, Merida suburbs, Dec. 11, 1864 (*Schott, 158*).

Heteropteris Yucatanensis sp. nov.
Frutex, foliis opositis ovato-lanceolatis acutis e basi cuneatis integris, petiolis brevis eglandulosis, ramis ad apice tomentosis, paniculis terminalibus paucifloris, pedicellis ultra medium articulatis, bracteis deltoideis minimus, calycis 8-glandulis albo-tomentosis. Ramis brevis 4-6 poll. long, foliis 1-2.5 poll. long, .5-1 poll. lata; petiolis 1-3 lin. long. Frutex 15 pedalis, in terræ inutiliæ. Izamal, Sept. (816).

Stigmaphyllon lupulus Wats. Proc. Am. Acad., xxi., 461.
"Vine 15 feet, infrequent on old stone fences about Izamal, producing its bright lemon-yellow flowers from February to July" (408). Our specimens agree best with Pringle's *4102* from Tamasopo, San Louis Potosi, Mexico, 1892; the leaves varying from orbicular-cordate through ovate-cordate and simply hastate to deeply hastate-lobed. At Ɔitas, March 31, 1866 (*Schott, 771*). Tunkas, March 3, 1890, a woody climber (*Stone, 230*, in Herb. Acad. Sci. Phila.).

Tetrapteris inæqualis? Cav. Diss. 9, t., 260.
"Uncommon in forests and brush lands near Izamal" (972).

ZYGOPHYLLACEÆ.

TRIBULUS MAXIMUS Linn. Sp. Pl., 387.
Merida, Feb'y 8, 1865; and March 3, 1865 (*Schott, 25, 97*).

TRIBULUS TERRESTRIS CISTOIDES (L.) Oliver.
Downs at Progreso, April 6, 1865 (*Schott, 285*).

RUTACEÆ.

ZANTHOXYLUM PTEROTA H. B.-K. Nov. Gen. et Sp., vi., 3. **Xic-ché.**
Merida, June 11, 1865 (*Schott, 450*).

SIMARUBACEÆ.

ALVARADOA AMORPHOIDES Liebm. Kjoeb. Vid. Med., 1853, 100.
Suburbs of Merida; Dec., 1864 (*Schott, 151*). Tekanto, tree 20 feet high (*Stone, sine num.*, in Herb. Acad. Sci. Phila.).

Simaruba glauca de C. Ann. Mus. Par., xvii., 323. **Xpaxakil.**
"Tree 100 feet, common in the forests about Izamal, producing its light green flowers in February" (439).

SURIANA MARITIMA Linn. Sp. Pl., 284. **Xpanoil.**
On the downs at Progreso, April 4, 1865 (*Schott, 306*).

BURSERACEÆ.

Protium heptaphyllum (Aubl.) Mch., Kjoeb. Vid. Med., 1873, 55. *Copal.* **Pom.**
Near the hacienda Cucá, March 26, 1866 (*Schott, 757*).

MELIACEÆ.

CEDRELA ODORATA Linn. Syst. ed., x., 940.
Merida (*Schott, 199*, in Herb. U. S. Natl. Mus.).

Trichilia spondioides Jacq. Pl. Carib., 20. **Xkulinsis.**
"Tree 40 feet high, common in the forests about Izamal, producing its pale green flowers in June" (712).

EUPHORBIACEÆ.

ACALYPHA ALOPECUROIDEA Jacq. Ic. Rar., iii., 19.
"Herb 16 inches high, common in shaded places near Izamal, flowering from July to Dec." (1017). Chocholá, Sept. 13, 1865 (*Schott, 44*).

ACALYPHA SETOSA A. Rich. Fl. Cub. Fan., ii., 204.
Merida, 1865 (*Schott, 480, 968*).

Acalypha Yucatanense sp. nov. **Miscax.**
Rhombifoliæ. Spicis ovoideo-cylindricis breviuscule pedunculatis, bracteis fœm. densis, 1-floris, late obovatis, hirsutis, 7-9 dentatis, dentibus triangularis acutis, calycis fœm. laciniis ovatis acutis hirsutis, ovario tuberculato et hispido, stylis 3 tenuibus, seminibus lævibus ecarunculatis. Herba pilosa 20 pollicaria, caule erectis simplicis vel inferne dubiter ramosis, limbus foliorum .5-1 poll. long, ovatis acutis crenulato-serratis e basi deltoideis, supra et infra pilosus, petiolum limbum longiorum. Ad Progreso (1176).

Codiæum variegatum Blume Bijd. 606.
Merida, at Quinta del Obispo, cult? March 6, 1865 (*Schott, 244*). Merida, cult. April 1887 (*Millspaugh, 24*).

Croton ciliato-glanduliferus Ortega, Hort. Matr. 51.
Tekanto, Feb. 27, 1890 (*Stone, 216,* in Herb. Acad. Sci., Phila.).

CROTON CORTESIANUS H. B. K. Nov. Gen. et. Sp., ii., 83.
Merida, Nov. 1864 (*Schott, 172*). Tekanto, shrub 5 ft., Feb. 25, 1890 (*Stone, 201,* in Herb. Acad. Sci., Phila.).

CROTON FLAVENS Linn. Pl. Jam. Pug. 28.
Cenoté de Ɔambula near Merida, Jan. 20, 1865 (*Schott, 172*).

CROTON LOBATUS Linn. Sp. Pl. 1427.
Ruins of Uxmal, Sept. 15, 1865 (*Schott, 955*).

CROTON HUMILIS Linn. Syst. ed x., 1276.
Cenote de Ɔambula, Merida, Jan. 20, 1865 (*Schott, 172*).

CROTON MARITIMUS Walt. Flor. Carol., 239.
Progreso, April 4, 1865 (*Schott, 209,* in Herb. U. S. Natl Mus.).

DALECHAMPIA SCANDENS Linn. Sp. Pl., 1423. **Xmoolcoh.**
Merida, June 30, 1865 (*Schott, 514*).

EUPHORBIA ADENOPTERA Bertol. Misc. Bot., iii., 436.
"Prostrate herb spreading one foot. Chaltumha road, October" (938). The densely floral and folial form with all characters closely aggregate.

"Semi-erect 10 inches high, Sitilpech road, November" (939). The more open ascending form. Sisal, Nov. 1865 (*Schott, 966*).

Euphorbia arenaria (Kth.) H. B. K. Nov. Gen., ii., 46.
Merida at Quinta del Obispo, Nov. 23, 1864 (*Schott, 15,* in part).

EUPHORBIA ARMOURII Millsp. Field Col. Mus., Bot., i., 28.
"Herb 18 inches high, uncommon, found only at the mouths of caves, and in very damp, shady places near Izamal, November" (975). Of larger growth, and with young parts more densely hirtellate than in the type. Merida, Cenoté Ↄambula, Dec. 14, 1864; Quinta del Obispo, Nov. 22, 1864 (*Schott, 76*).

EUPHORBIA BUXIFOLIA Lam. Encyc., ii., 421.
Seaside at Progreso, April 4, 1865 (*Schott, 308*).

Euphorbia dentata Michx. Fl. Bor. Am., ii., 211.
Merida, at Quinta del Obispo, Nov. 23, 1864 (*Schott, 15*).

Euphorbia Gaumerii sp. nov. **Sacio.**
Caule glabræ, lignosæ, scandenti, ternatim ramoso, ad articulationes incrassata, ramis longe articulatis plus minusive pilis strigosis sparsis, foliis oppositis ovato-lanceolatis obtusis vel acutis e basi cuneata, petioli quaterne longiori, glandulis stipularibus brevis, cymis ad articulationes ramularum corymboso-paniculatis, polycephalis, ad apice racemoso-paniculatis, tota laxiuscule, pedunculatis divaricatim dichotomis; foliis floralibus rarius minimis ovato-lanceolatis, involucris pedicillatis turbinatis adpresse lanatis, lobis spathulatis irreguliter dentato-fimbriatis, glandulis transverse sub-plicatis appendice triplo latiori orbiculata minute serrato-dentata, stylis brevibus, stigmatis crassis profunde bi-partitis. Capsula (juniori) glabra, profunde sulcata, coccis obtuse carinatis, semina. . . . . . Frutex scandentis 10 pedalis. Folia 1-2 poll. longa, 9-12 lin. lata, cymæ laxiuscule oppositæ. Involucris lin. longa, duo-lineam lata. Species, prox. *colletioidea* Bth. (alectoroctonum). In sylvis ad Buena Vista Xbac (1073).

Euphorbia graminea virgata var. nov. **Onob kax.**
"Herb 2 feet high, common in moist places near Tekax, September" (1128).
Differs from the species in having longer and virgate branches, larger leaves, smaller involucral lobes, broader and blunt pointed appendages having a tendency to trilobation, and smaller seeds with fewer scrobiculæ arranged in two transverse lines, sharper rugæ, a sharper triangular apex, and no median line.

Euphorbia graminea lancifolia var. nov.
"Herb 18 inches high, rare, railroad bank, northwest of Izamal, November" (969).
Branches less quadrangular and not hairy on the angles, lower ovate leaves repand dentate, upper leaves lanceolate, the floral linear on attenuate branchlets. Glandular appendages ovate, seeds longer and more sharply quadrangular than in *var. virgata*, and with three lines of pits:

EUPHORBIA HETEROPHYLLA Linn. Am. Acad., iii., 112.

"Herb 3 feet high, along old fence rows and in old fields about Izamal, in flower from September to December" (903). The usual form of the species with cuneate-lanceolate irregularly serrate leaves, smooth capsules, and virgate sparsely leafy branchlets.

Merida, Sept. 30, 1865 (*Schott, 960*). "This plant is used for washing clothing."

Euphorbia heterophylla *forma.*

"Herb 4 feet high, common at Buena Vista Xbac, September" (1109).

A peculiar form in which the stem leaves are broadly lanceolate, entire or minutely and distantly dentate-serrate, strigosely short-hairy beneath; while those of the extended virgate branchlets are elongated-linear, quite resembling those of *var. graminifolia* Engelm. This form, but with some of the lower leaves, panduriform (*E. heterophylla cyathophora* (Jacq.) Boiss), was collected in 1879 at Fountaindale, Oregon, and Byron, Illinois, U. S. A., by the late Mr. M. S. Bebb.

EUPHORBIA HETEROPHYLLA CYATHOPHORA (K. and G.) Boiss de C. Prod., xv., 262.

Merida, 1865 (*Schott, 961*). This form of a very varied subspecies is completely vested with cyathiform leaves, from those of the base to the floral at the apex. Generally the basal leaves only distinguish the variety, the apical being either lanceolate or linear. The nearest counterpart of this plant was grown by Dr. Geo. Engelmann from seed sent him from Texas. (See sp. in U. S. Nat. Herb.).

Euphorbia lasiocarpa Klot. Nov. Act. xix, Supl. 414.

Merida, Aug. 23, 1865 (*Schott, sine num.*).

EUPHORBIA MAYANA Millsp. Field Col. Mus. Bot., i., 304.

"Open grounds at Buena Vista Xbac, April" (1039). Differs from the type collected near Izamal, only in having somewhat deeper and more irregular dentations in the margin of the appendages. Tekanto, shrub 5-8 feet high, branches short, horizontal, flowers yellowish-white, Feb. 25, 1890 (*Stone, 211*, in Herb. Acad. Sci. Phila.).

Euphorbia pilosula Engelm in litt.

"Herb 8 inches, common in the forests of Buena Vista Xbac, August" (1103).

EUPHORBIA PILULIFERA PROCUMBENS (de C.) Boiss. de C. Prod, xv., 21.

Merida, at Quinta del Obispo, Nov. 24, 1864 (*Schott, 56*). Merida, 1865 (*Schott, 967*). "Prostrate herb, abundant in shady places near Izamal, November" (1003).

Euphorbia pulcherrima (Grah.) Willd. Allg. Gart. ii., 27.
Merida, at Quinta del Obispo, Jan'y, 1866 (*Schott, 727*).

EUPHORBIA RHYTISPERMA Engelm in Kl. et Gke., p. 34.
"Waste grounds at Tekax, September" (1123). Larger and fuller growth than specimens collected at Izamal in 1895.

EUPHORBIA SERPYLLIFOLIA Pers. Ench. bot., 11, 14.
Intermixed with E. pilulifera procumbens collected by *Schott, 967*, at Merida, 1865.

Euphorbia Xbacensis sp. nov.
Glabra, caule erectis, quadrangulatis dichotomis, foliis petiolatis integris ovato-lanceolatis acutis e basi cuneata, summis minute hirtis diminutis lanceolatis, involucris minimis extus adpresse hirtis, lobis quadratis fimbriatis, glandulis 4, transverse avatis, appendice angustissime orbiculatis, margine integris vel obsolete lobulatis, stylis profunde bipartitis apice crassis; capsulæ hirtis profunde sulcatis, coccæ obtuse carinatis, semina grisea, ovate, reguliter foveolate albo in profundis. Bipedalis. Folia inferiora nulla, media semipollicaria longa, bilinea lata, supra minima.

§ Cyttarospermum prox. *E. Acerensæ*. Rara ad Buena Vista Xbac (1108).

Gymnanthes lucida Sw. Prod. Veg. Ind. Occ., 96.
Merida, April 2, 1865 (*Schott, 283, 316*, in Herb. U. S. Natl. Mus.).

Hura polyandra Baill. Etud. gen. Euph., 543. *Jabilla.*
A small tree 40 feet high, common at Progreso (1144).

JATROPHA CURCAS Linn. Sp. Pl., 1429. **Xcacal ché.**
Merida, May 28, 1865 (*Schott, 395*).

JATROPHA URENS Linn. Sp. Pl., 1429. **Chaya.**
Cercanias, Merida, April 30, 1865, and November (*Schott, 496, 700*).

JATROPHA URENS STIMULOSA (Michx.) Müll. de C. Prod., xv., 1101. **Xoat.**
Merida, Nov. 5, 1865 (*Schott, 700*). Merida, in mimosetis et cercanias, April 12, 1865 (*Schott, 496*). "Herb 6 feet high. Common everywhere. Buena Vista Xbac, April" (1069). "The sting causes pain instead of burning or itching." Tunkas common, 4 feet high, March 3, 1890 (*Stone, 232*, in Herb. Acad. and Sci. Phila.).

Manihot Carthaginensis (Jacq.) Muell. D. C. Prod., xv., 1073. **Xhac ché.**
"Herb 8 feet high, common along roads, and on waste lands, near Izamal" (1142). Leaflets nearly panduriform, strongly apiculate. Merida, June 25, 1865 (*Schott, 518*). The same panduriform lobed form.

Manihot Manihot (L.) Cock. Bull. Torr, xix., 1892. *Jucca.*
Cultivated near the ruins of Kabah, Nov. 26, 1865 (*Schott, 957*). A form with 7 narrowly lanceolate, almost linear, leaf lobes, not in flower or fruit.

Manihot rhomboidea Muell. Arg. in Linn., 34, 205. **Chaché.**
Merida, July 11, 1865 (*Schott, 518*). Dr. Schott spells the Maya name Xcaxe.

PEDILANTHUS ITZÆUS Millsp. F. Col. Mus. Bot., 1, 305. **Yaxhalal ché.**
Merida, April 10, 1866, in full leaf (*Schott, 552*).
(This species also appears in U. S. Natl. Herb , from Santa Domingo, collected by Wright, Parry and Brummel, without number.)

RICINUS COMMUNIS Linn. Sp. Pl., 1430.
Merida, Feb'y 13, 1865 (*Schott, 241*). Merida, April 14, 1887 (*Millspaugh, 46*).

TRAGIA NEPETÆFOLIA Cav. Ic., vi., 37. **Popox.**
Merida, Aug. 20, 1865 (*Schott, 588*); February 11, 1865 (*Schott, 448*). "The Mayas rub their limbs with this plant when suffering pain."

ANACARDIACEÆ.

Anacardium occidentale Linn. Sp. Pl., i., 283. *Maranon.*
Hacienda Tahchebilá, Cult? March 31, 1866 (*Schott, 765*).

Astronium sp.
"A rare tree 100 feet high." In fruit without leaves, Xcholac, March (582).

MANGIFERA INDICA Linn. Sp. Pl., 200. *Mango.*
Merida. Cult? March 14, 1866 (*Schott, 815*). In these specimens the panicle is not pubescent, indeed only very sparsely hairy.

Spondias lutea Linn. Sp. Pl., Ed. ii., 613. *Ciruela.* **Mompin.**
Suburbs of Merida, cult? April 4, 1865 (*Schott, 797*).

Spondias purpurea Linn. loc. cit. *Ciruela.* **Chiabal.**
"Tree 30 feet high, very abundant in cultivation, the bright-pink flowers appearing in March" (432). "*Juntura,* flowers red" (704).

CELASTRACEÆ.

Maytenus phyllanthoides Benth. Bot. Voy. Sulph., 54.
"Shrub 10 feet, abundant at the port of Silam, April" (643).

HIPPOCRATEACEÆ.

Hippocratea obcordata Lam. Illust., i., 100.
Downs at Progreso, April 6, 1865 (*Schott, 317*).

SAPINDACEÆ.

Bumelia buxifolia Willd. H. B. K. Nov. Gen. et Sp. t., 147.
Downs at Progreso, April 7, and Celestun, May 12, 1865 (*Schott*, *313*).

Bumelia glomerata Griseb. Mem. Am. Ac., 1863, 518. **Puomucuy.**
Suburbs of Merida, April 14, 1865 (*Schott*, *341*). "Shrub 15 feet high, abundant in brushlands about Izamal, producing its cephalic whorls of greenish-yellow flowers from March to April" (473).

Bumelia microphylla Griseb Plant. Cat. Cub., 165.
Merida, March, 1865 (*Schott*, *341*). "Shrubby, 10 feet high, common on brushlands near Izamal, April" (559, 469 in part).

Paullina fuscescens glabrescens Radlk. Mon. Sap., 56. **Kexak.**
About Merida, Dec. 10, 1864 (*Schott*, *10*, in Herb. U. S. Natl. Mus.).

Serjania polyphylla Poir. ex. Steud. Nom., ed. 2, ii., 568.
About Merida, Dec. 10, 1864 (*Schott*, *10*, part of the sheet upon which the previous species is mounted in Herb. U. S. Natl. Mus.).

RHAMNACEÆ.

Colubrina ferruginosa Brong. Ann. Soc. Nat. x. 369. **Yax-Pukim.**
A small tree 30 feet high, Mascab Pixoy, Jan. 22, 1895 (*Armour Exped.*, *157*, *181*). "Small tree 30 feet high, abundant in scrub and brushlands about Izamal" (355). Suburbs of Merida, "**Oulubmay,**" April to November (*Schott*, *13*, *331*).

Gouania Domingensis Linn. Sp. Pl. 1663. **Xomak.**
"Vine 30 feet, infrequent in the forests about Izamal, November" (959). Merida, Nov., 1865 (*Schott num. amiss. 658*, in Herb. U. S. Natl. Mus.).

Karwinskia Humboldtiana? Zucc Nov. Stirp., i., 351.
"Tree! 30 feet high, common from Merida to Progreso" (1171). Although our plant seems to properly fall under this genus and species, yet the ovary is 2-celled with each cell 2-ovuled, and the leaves, though opposite, are not pellucid-dotted.

TILIACEÆ.

CORCHORUS SILIQUOSUS Linn. Sp. Pl. 746.
"Shrub 3 feet high, common at Progreso" (1168). Aguada de Uxmal, Sept. 17, 1865 (*Schott*, *104*, in Herb. U. S. Nat. Mus.).

Differs from the description in the following characters: More shrubby than suffrutescent; branchlets with a double hairy line; flowers single, axillary, scattered along the branches.

Lueha speciosa Willd. Geo. Nat. fr. Neu. Schr. iii., 410. **Chacah.**
At the Hacienda Chacah near Ticul, Oct. 21, 1865 (*Schott*, *679*).

Muntingia Calabura Linn. Sp. Pl. 728. *Capolin.*
"Hacienda San Rafael de Xteppen southeast of Uman, Aug., 1865. Hacienda Saragossa, Sept. 9, 1865" (*Schott, 554*). "Tree 30 feet high, common at Progreso and Merida" (1163).

MALVACEÆ.

Abutilon crispum Sweet, Hort. Brit. ed. i., 53.
"Merida at Quinta del Obispo, Nov. 20, 1864" (*Schott, 83*, in Herb. U. S. Natl. Mus.); suburbs of Merida, Dec. 3, 1864" (*Schott, 167*). "Herb 5 feet high, common on open lands near Izamal, flowering from August to December" (872). Calcehtoh, March 11, 1890, flowers yellow (*Stone, 271*, in Herb. Acad. Sci., Phila.).

Abutilon incanum (Lk.) Sweet, Hort. Brit. ed. i., 53.
"Herb 4 feet high, abundant in old fields and waste places near Izamal" (954). Our form agrees best with Palmer's *1281* from Armeria, Mex., 1891.

Abutilon sidoides Hemsl. Diag. Pl. Nov. 24. **Xacmixbil.**
"Shrubby, 4 feet high, common at Tekax, September" (1133). Our specimens differ from the type in having somewhat longer petioles, and in being more branchy like Pringle's *4583* Jalisco, 1893.

ANODA HASTATA Cav. Diss. i., 39.
Merida, Nov. 28, 1864 (*Schott, 12*). Hacienda Saragossa, Sept. 8, 1865 (*Schott, 353*, in Herb. U. S. Natl. Mus.).

Anoda parviflora Cav. Ic. v., 19. **Oaiunoai.**
"Herb 3 feet high, abundant in old fields near Izamal, producing its pale-yellow flowers from September to October" (821).

Anoda triangularis de C. Prod. i., 459.
Fence rows in the suburbs of Uman, April, 1887 (*Millspaugh, 19*).

Gossypium Barbadense Linn. Sp. Pl. 975. **Xchup.**
Suburbs of Merida, Aug. 24, 1865 (*Schott, 602*) Calcehtoh, March 11, 1890 (*Stone, 269*, in Herb. Acad. Sci. Phila.).

Gossypium herbaceum Linn. Sp. Pl. 975. *Algodon.*
"Herb 10 feet high, often becoming a 15 foot shrub. Extensively cultivated in Yucatan during the civil war in the United States, now only on a small scale for domestic use" (935). Our specimens are of the form *G. hirsutum L.* and agree with Berlandier's Texano-Mexican *313*, and Simpson's Florida specimens of 1889.

Gossypium religiosum Linn. Syst. ed. xii. 642.
Suburbs of Merida, August, 1865 (*Schott, 602*).

Hibiscus elatus Sw. Fl. Ind. Occ. ii, 1218. **Xholó.**
Hacienda Guayalú, cult? Sept. 19, 1865 (*Schott, 629*).

Hibiscus mutabilis Linn. Sp. Pl. 977. *Flor de Cortejo.*
Cultivated at Merida, Feb. 16, 1866 (*Schott, 744*).

HIBISCUS TUBIFLORUS Moc. & Sesse, de C. Prod. i. 447.
Tunkas, 3 to 4 feet high, flowers rose-red, March 3, 1890 (*Stone, 257*), in Herb. Acad. Sci. Phila.).

Malachra capitata Linn. Syst. ed. xii. 458.
At the Aguada de Uxmal, Sept. 17, 1865 (*Schott, 883*).

Malvastrum tricuspidatum A. Gray, Pl. Wright i. 16. *Malva.*
M. Coromandelianum Garcke. "Shrubby, 4 feet high, abundant in old fields near Izamal, October" (1020). Our plant agrees with that of P. Sintenis from Porto Rico.

MALVAVISCUS ARBOREUS Cav. Diss. t. 48.
Two quite distinct forms of this species are found in our region: The one with small obtuse slightly and irregularly crenate leaves (½ to 1¼ inch long by 3/8 to ½ inch broad), collected only along the coast. (Gaumer, Silam, April, 1895, *Schott* Downs at Progreso, April, 1865, *271*); the other with large acute crenate leaves (1 to 3 inches long by ¾ to 2 inches broad), found inland (Gaumer 580, *Millspaugh, Armour Exped. 60, Schott.* Merida, Jan. 1865, *177;* and Ruins of Uxmal, Sept. 15, 1865, *643*). The leaves of the form from the coast have a few scattered pilose hairs beneath, those of the inland form scattered stellate hairs, while in the specimens from the more humid and higher region of Uxmal the leaves are densely woolly.

SIDA ACUTA CARPINIFOLIA (L.f) K. Schum Fl. Braz. Fasc. cix. 326.
"Herb 4 feet high, frequent in brushlands about Izamal (902); and in the forests about Buena Vista Xbac, April" (1054). Tekanto common, Feb. 27, 1890 (*Stone, 194*, in Herb. Acad. Sci. Phila.).

Sida anomala St. Hil. Fl. Bras. Mer., i. 177.
Merida, Sept. 25, 1865 (*Schott, 116*, in Herb. U. S. Natl. Mus.).

SIDA SUPINA PILOSA (Cav.).
S. pilosa Cav. Diss. i. 9. t. 8. Tekanto, Feb. 27, 1890 (*Stone, 196*, in Herb. Acad. Sci. Phila.).

Wissadula mucronulata A. Gray, Bot Mex. Bound 39. **Ounikax.**
"Herb 5 feet high, common in old fields about Izamal, October" (968). Our plants agree with Pringle *4603* Jalisco, Mex., which have, however, a much lighter upper surface to the leaves.

Wissadula tricarpellata Robn. & Greenm.
"Herb 2 feet high, common in open lands at Buena Vista Xbac, April" (1056).

BOMBACACEÆ.

CEIBA CASEARIA Medic. Malv., 16.
Merida, Feb. 6, 1865 (*Schott, 204*). Tekanto, March 9, 1890 (*Stone, 224*, in Herb. Acad. Sci. Phila.).

CEIBA SCHOTTII Brit. & Baker. Jour. Bot. xxxiv, 173.
Merida, Aug. 1865 (*Schott, 205*), Type collection.

PACHIRA FASTUOSA (Sesse) Decne. Fl. des Serres, xxiii, 48.
Merida, Sept. 1865 (*Schott, 205*).

QUARARIBEA FIELDII Millsp. Field Col. Mus. Bot. i. 309. **Maha.**
Fine fruiting specimens from Merida at Quinta del Obispo Nov. 18, 1864 (*Schott, 18*). "The flowers are used to flavor chocolate."

Fruit ovoid rusty-downy, its lower two-thirds enveloped by the persistent calyx, the apex truncate-apiculate, 1¼ inches long, ¾ inch diameter.

STERCULIACEÆ.

AYENIA PUSILLA Linn. Syst. ed. x, 1247.
"Herb 2 feet high. Abundant in open lands about Izamal, April" (1061).

Ayenia sp. nov? (**Yucatanense**).
"Herb 4 feet high. Common in forests at Buena Vista Xbac. In fruit but without flowers, April" (1052).

Foliis longe petiolatis ovato-lanceolatis, acuminatis e basi truncatis, grosse et irreguliter dentatis, strigose hirsutis capsula dense hirsutis, longi pedunculatis, semina orbiculatis rufo-maculatis. Folia 1½ - 2½ poll. long. 5-10 linea lata; petiola 1-1½ poll. long.

Buettneria Carthaginensis Jacq. Stirp. Am. Piot. 41. **Xtexak.**
"Shrub 15 feet high, common in forests about Izamal, putting forth its light-green flowers in August" (786). Our plants are much nearer the Bolivian form than that of other Mexican stations.

GUAZUMA POLYBOTRYA Cav. Ic. iii. 51. **Pixoy.**
Suburbs of Merida, August to December, 1865 (*Schott, 148*). Merida, April 14 (*Schott, 342*, in Herb. U. S. Natl. Mus.).

HELICTERES BARUENSIS Jacq. Enum. Pl. Carib., 30. **Outup.**
Merida, June 14, 1865 (*Schott, 397*). (*792* in Herb. U. S. Natl. Mus.)

MELOCHIA TOMENTOSA Linn. Syst. Ed. x, 1140.
Merida, December, 1864 (*Schott, 608*). Ticul, flowers blue, March 12, 1890 (*Stone, 276*, in Herb. Acad. Sci., Phila.).

STERCULIA CARTHAGINENSIS Cav. Diss. vi, 353.
Borders of brushlands at Uman. April, 1887 (*Millspaugh, 8*).

Triumfetta semitriloba Jacq. Enum. Pl. Carib. 22. **Ochmul.**
Tizimin, March 28, 1866 (*Schott, 759*). "Shrub 10 feet high, infrequent in the brushlands aboul Izamal, November" (1005).

WALTHERIA AMERICANA Linn. Sp. Pl. 941.
W. Indica L. in prev. contrib. Charcos de Celestun, May 13, 1865 (*Schott, sine num.*). Calcehtoh, March 11, 1890 (*Stone, 268,* in Herb. Acad. Sci., Phila.).

GUTTIFERÆ.

Clusia flava Jacq. Enum. Pl. Carib., 34. **Chunup.**
Hacienda de Chablé, August 8, 1865, used as a remedy for syphilis (*Schott, 539, 924*).

BIXACEÆ.

Amoreuxia palmatifida Moc & Sesse de C. Prod ii, 638.
"Shrub 4 feet high, frequent at Progreso" (1155).

MAXIMILIANA HIBISCOIDES (H. B. K.) Kuntze Rev. Gen. 44.
Between Ditas and Tizimim, March 23, 1866 (*Schott, 752*). Tekanto, March 9, 1890 (*Stone, 223,* in Herb. Acad. Sci., Phila.).

FLACOURTIACEÆ.

Samyda serrulata Linn. Sp. Pl. 558. **Puus Mucuy.**
Near Merida, April 22, May 1, June 25 and 29, 1865 (*Schott, 603*). "Tree 25 to 40 feet high, common in brushlands near Izamal, developing its white flowers from May to October" (699, 858, 1063).

TURNERACEÆ.

TURNERA DIFFUSA APHRODISIACA (Willd) Urban, Jahrb. Bot. Gard. Berol ii, 127.
Hacienda Saragossa, Sept. 9, 1865 (*Schott, 889*).

PASSIFLORACEÆ.

PASSIFLORA FOETIDA Linn. Sp. Pl. 959.
P. Ciliata Dryand. Ait. Hort. Kew. ed. 1, iii. 310. Calcehtoh, March 11; Ticul, growing over the church, March 16, 1890. Flowers white, filaments purple, pistils crimson, stigma green (*Stone, 270, 286,* in Herb. Acad. Sci., Phila.).

Passiflora pulchella H. B. K., Nov. Gen. et Sp. ii, 134?
"Vine 10 feet, uncommon in forests near Izamal, blossoming in September" (796).

Passiflora suberosa Linn. Sp. Pl., 958.
Merida, October 10, 1865 (*Schott, 898*).

CARICACEÆ.

CARICA PAPAYA Linn. Sp. Pl., 1036.
Cult? Quinta del Obispo, Merida, March, 1865 (*Schott, 245*).

LOASACEÆ.

GRONOVIA SCANDENS Linn. Sp. Pl., 202.
Merida, September 1, 1865 (*Schott, 620*).

LYTHRACEÆ.

PUNICA GRANATUM Linn. Sp. Pl., 676.
Cult? Merida, May 22, 1865 (*Schott, 40*).

RHIZOPHORACEÆ.

RHIZOPHORA MANGLE Linn. Sp. Pl., 634.
Yucatan ad Manglares, Nov. 9, 1864 (*Schott, num. amiss.*).

MYRTACEÆ.

PIMENTA OFFICINALIS Lindl. Coll. Bot. t. 19. *Pimiento.*
Myrtus Pimenta L., *P. vulgaris* Wight. Merida, cult? April 30, 1865 (*Schott, 358*).

PSIDIUM GUAJAVA Linn. Sp. Pl. ed. i, 470. *Guayaba.*
Cult. Merida, March 23, 1865 (*Schott, 257*).

COMBRETACEÆ.

BUCERAS CATAPPA (Linn.) Hitch. Mo. Bot. Gard. 1893, 85. *Almendra.*
Terminalia Linn. Hacienda San Rafael Xteppen, August 7, 1865; Hacienda Cucul, near Merida, September 8, 1865 (*Schott, 550, 921*); Ticul, March 13, 1890 (*Stone, 280*, in Herb. Acad. Sci., Phila.).

Conocarpus sericea Forst., Don. Gen. Syst., ii, 662. **Xtabché.**
Botoncillo.

"A densely silky sericeous shrub 20 feet high, abundant on the borders of all salt marshes along the coast. Progreso" (1164) (*Schott, 266, 267*). This form is distinct from *C. erecta* in all its characters and should (according to our specimens) be kept apart.

Gyrocarpus Americanus Jacq. Select. Am. 282. **Xkis.**
"Tree 80 feet high, common in the forests about Izamal, producing its large cymose greenish flowers from March to June" (491, 530). Yucatan loc. ignot. (*Schott, 530*, in Herb. U. S. Nat'l Mus.).

UMBELLIFERÆ.

Hydrocotyle prolifera Kellogg, in Proc. Calif. Acad. i, 15.
"Herb 4 inches high, abundant about the aguada of Xcholac, February" (445). Our specimen agrees with M. Bourgeau's *400* from the banks of a canal near Mexico City.

LENNOACEÆ.

Lennoa cærulea Fourn. Bull. Soc. Bot. Fr., xvi, 11.
"In the forests of Buena Vista Xbac, September" (1116).

MYRSINACEÆ.

JACQUINIA ARMILLARIS Jacq. Enum. Pl. Carib., 15. **Muyché.**
Seaside at Sisal, May 15, 1865 (*Schott, 357*). The same unarmed form described on p. 312, Contrib. ii; there is, however, an unnumbered specimen in Herb. U. S. Nat'l Mus., collected at Progreso, April 4, 1865, by Dr. Schott, in which the leaves are characteristically armed at the tip.

PLUMBAGINACEÆ.

Plumbago Capensis Thunb. Prod. Pl. Cap. 33. *Embelezo.*
"Shrub 4 feet high, in general cultivation in towns on the peninsula" (1151).

PLUMBAGO SCANDENS Linn. Sp. Pl., 215. **Xcabaac.**
Merida, June, 1865 (*Schott, 612*); Merida, Nov. 14, 1864 (*Schott, 29*, in Herb. U. Nat'l Mus.).

SAPOTACEÆ.

ACHRAS SAPOTA Linn. Sp. Pl., 470. **Ya.**
Merida, cult? March 23, 1865 (*Schott, 258*).

CHRYSOPHYLLUM CAINITO Linn. Sp. Pl., 192. *Cainito.*
"Tree 30 feet high, common in the forests about Izamal, producing its cream-colored flowers in August" (896). Cultivated at Merida, Quinto del Obispo, Dec. 24, 1864 (*Schott, 72*).

Dipholis salicifolia A. de C., de C. Prod. viii, 188. **Xac-chum.**
"Tree 40 feet high, rare in the forests of Buena Vista Xbac, April" (1047). Flowers more densely crowded than the Florida U. S. form, and than *305* Flora Domingensis of Wright, Parry & Brummel.

EBENACEÆ.

Diospyros Ebenum Köen, Phys. Salsk. Hand. i, 176. **Tauch Ya.**
Sapote Negro. Hacienda de Chablé (cult ?) August 8, 1865 (*Schott, 542*).

APOCYNACEÆ.

Echites biflora Jacq. Enum. Pl. Carib., 13.
In mangrove thickets at Sisal, Nov. 9, 1865 (*Schott, 812*).

ECHITES SUBSAGITTATA Ruiz & Pav. Fl. Peru., ii, 19.
E. microcalyx A. de C., Hacienda Saragossa, September 8, 1865 (*Schott, 674*).

Echites torulosa Linn. Sp. Pl. ii, 307.
"Vine 10 feet, common in brushlands about Izamal, producing its lemon-yellow flowers in August" (806, 883).

Echites umbellata Jacq. Enum. Pl. Carib., 13.
Sisal, May 9, 1865 (*Schott, 38*).

Macrosiphonia Berlandieri A. Gray, Syn. Fl. Am. ii, i, 83.
Yucatan, loc. ignot. et sine die (*Schott, sine num.*).

Nerium Oleander Linn. Sp. Pl. 305. *Narciso.*
Yucatan loc. ign. (*Valdez, 8* "Colorada, e blanca"). Probably from cultivated plants at Merida. Merida. Cult. April, 1865 (*Schott, 813*).

Plumeria pudica Jacq. Enum. Pl. Carib., 13.
Cult? Camino de Sisal near Pozo del Toro, May 7, 1865 (*Schott, 428, 429*).

PLUMERIA RUBRA Linn. Sp. Pl., 209.
Cult? Merida, April to August, 1865 (*Schott, 321, 323, 324* flor rubro; *670* flor alba). All of these labels are associated with one specimen of the above species.

RAUWOLFIA HETEROPHYLLA Willd. ex. Roem. & Schult. Syst. iv, 805.
Suburbs of Merida, April 14, 1865 (*Schott, 431*).

Stemmadenia insignis Miers. Apocyn. S. Am., 76. *Laurel.*
"Merida" (*Schott*, type *430*). Merida, April, 1887 (*Millspaugh, 27*). Only seen in cultivation in the public parks. The specimens in Herb. Schott bear a close resemblance to *Tabernæmontana citrifolia* Linn.

TABERNÆMONTANA ACAPULCENSIS Miers Apocy. S. Am., 57. **Uoupek.**
"Merida, March, 1865 (*Schott.* type *432*). Along fence rows, campo beyond Uman, April, 1887 (*Millspaugh, 34*).

THEVETIA NEREIFOLIA Juss. ex. Steud. Nom. ed. 2, ii, 680.
Suburbs of Merida, April 11, 1865 (*Schott, 321*). Quinta del Obispo (*Schott, sine die sine num.*).

Thevetia spathulata sp. nov.
Foliis ovato-spathulatis vel (junior) oblonceolatis obtusis vel subacutis, margine integris, supra glabris et nitidis obsolete reticulato-venosis nervis lateralibus, centrali obliquus subtus pallidis glabris, cyma terminalia laxiflora glabra, bracteis traingulo-lanceolatis, deciduis, lobis calycinis lanceolatis mucronato-acuminatis glabris, tubo corollæ vix brevioribus. Frutex 20 pedalis Ramuli teretes glabris, cortex albo-chartaceis. Folia 2–4 poll. long., 6–14 lin. lat., petiolo 2–4 lin. long. Cymæ folio subsequantes. Flores aurea-viridis 2 poll. long., pedicellis poll. long. Lobi calyces 5 lin. long., 2 lin. lat. Tubus corollæ intus apice strigose hirtis, appendicibus 5 cornatiformis. Affin. *T. cunifoliæ.*

Although there is a great variation in the shape of the juvenile leaves—the mature only being constant and typical—I have little hesitancy in referring the following young plants to this species, *Schott, 321,* Merida, 1865; *Gaumer, 7,* Cozumel Island, 1885 "new species?" (Oliver); and Gaumer, 678, "common at the Port of Silam, April, 1895." Road beyond Xcholac, 15 feet high, flowers lemon-yellow, March 2, 1890 (*Stone, 255,* in Herb. Acad. Sci., Phila.).

VINCA ROSEA Linn. Syst. ed x, 944.
Suburbs of Merida, common as a roadside weed. April 14, 1887 (*Millspaugh, 44*).

ASCLEPIADACEÆ.

ASCLEPIAS CURASSAVICA Linn. Sp. Pl., 314.
"Herb 3 feet high, abundant in damp situations near Izamal, its yellow flowers produced throughout the year" (556). Suburbs of Merida, Jauuary 5, 1865 (*Schott, 182*).

METASTELMA SCHLECHTENDALII Decne. in de C. Prod. viii, 513.
Tekanto, Feb. 25, 1890 (*Stone, 203,* in Acad. Sci., Phila.).

CONVOLVULACEÆ.

EVOLVULUS ALSINOIDES Linn. Sp. Pl. 392.
"Herb 18 inches high, common in the forests of Buena Vista Xbac, April" (1067). Merida, June, 1865 (*Schott, 64*).

IPOMŒA BONA-NOX Linn. Sp. Pl. ed. ii, 228.
Nohcacab, Oct. 20, 1865 (*Schott, 684*).

Ipomœa cissoides Griseb. Fl. Brit. W. Ind. 473.
"Vine 10 ft., abundant in old fields about Izamal, producing its satiny-white flowers in November" (982). Range between Sacacab and Tikul, Oct. 20, 1865 (*Schott, 905*).

IPOMŒA COCCINEA Linn. Sp. Pl. 228.
"Vine 20 ft., common in old fields about Izamal, producing its bright red flowers from October to December" (981, 990).

IPOMŒA FASTIGIATA Sweet Hort. Brit. ed. i, 288.
"Vine 15 ft., common in old fields near Izamal" (915).

Ipomœa hederacea Jacq. Coll. i, 124.
"Vine 20 feet, common in towns and the fields about Izamal, blossoming in October and November. Flowers deep sky-blue changing to rose on drying" (919, 983). Merida, 1865. (*Schott, 906*).

"Vine 30 feet, rare at Buena Vista Xbac; flowers bright rose-pink" (769). In Gaumer's 919 and 983 the flowers are large and long peduncled and the leaves 7 inches broad by 5 inches long, and scattered strigose-hairy. In Schott's 906 the leaves are small, about 2 by 1½ inches, strigose-hairy like the preceding. In Gaumer's 769 the leaves are small as in Schott's form, but are densely covered both above and beneath with long closely-apressed silky hairs.

Ipomœa pentaphylla (L.) Jacq. Coll. ii, 297. **Sooac**
"Vine 20 feet, abundant on roadsides about Izamal, producing its white flowers in October" (985). Merida, Nov. 7, 1865. (*Schott, 26*).

IPOMŒA PUNCTICULATA Benth. Bot. Voy. Sulph. 136.
"Vine 20 feet, abundant in towns and fields, producing its reddish-purple flowers from September to February" (329).

Ipomœa sinuata Orteg. Hort. Matr. Dec. 84.
"Vine 10 feet, frequent in brushlands and cornfields about Izamal" (1093)

JACQUEMONTIA ABUTILOIDES Benth. Voy. Sulph., 34.
"Mountains between Hacienda Sacacal and Ticul, Oct. 20, 1865 (*Schott, 681*). Tekanto, Feb. 1890 (*Stone, 206*, in Herb. Acad. Sci. Phila.).

JACQUEMONTIA PENTANTHA G. Don., Gen. Syst. iv, 283. **Yaxhal.**
"Vine 10 feet, common in brushlands about Izamal, October to January" (917). Suburbs of Merida, Nov. 14, 1864. (*Schott, 344*). Tunkas, March 3, 1890 (*Stone, 231, 235*, in Herb. Acad. Sci. Phila.).

Jacquemontia tamnifolia Griseb. Fl. Brit. W. Ind. 474.
Vine 20 feet, common in the forests of Buena Vista Xbac, Aug. (1121).

BORRAGINACEÆ.

CORDIA DODECANDRA de C. Prod. ix, 478.
Thirty feet high, flowers vermilion with a tinge of orange; Tekanto, Feb. 27, 1890 (*Stone, 198*, in Herb. Acad. Sci. Phila.).

CORDIA GERASCANTHOIDES H.B.K. Nov. Gen. et. sp. iii, 69. **Bohom.**
"Tree 100 feet high, common in forests where it blooms in April. Flowers very profuse, aromatic and durable. This tree yields one of the most valuable timbers of the country, much used in wagon-making and wherever strength and elasticity are required. Buena Vista Xbac" (1066). Aguada San Antonio, Xcanchacan, March 1, 1866 (*Schott, 745*).

CORDIA GLOBOSA (L.) H. B. K., Nov. Gen. et Sp. iii, 76.
Merida, 1865 (*Schott, 970.*) "Shrub 12 feet high, rare, Kantunil road near Izamal, producing its white flower in June" (745). "Shrub 30 feet high, in brushlands near Izamal, Sept." (801).

CORDIA SEBESTENA Linn. Sp. Pl., 190. **Kopté**
Merida, Dec. 14, 1864 (*Schott, 173*); Sisal, May 10, 1865 (*Schott, 386*).

EHRETIA TINIFOLIA Linn. Syst. ed. x., 936. *Roble.*
Merida, Apr. 14, 1865 (*Schott, 800*).

HELIOTROPIUM CURASSAVICUM Linn. Sp. Pl., 130.
Ticul, March 12, 1890 (*Stone, 275*, in Herb. Acad. Sci., Phila.).

Heliotropium fruticosum Linn. Syst. ed. x, 913.
Merida, June, 1865 (*Schott, 364*).

HELIOTROPIUM INUNDATUM Sw. Prod. Veg. Ind. Occ., 40.
Merida, Aug. 21, 1865 (*Schott, 968*).

HELIOTROPIUM PARVIFLORUM Linn. Mant. ii., 201.
Merida, January 4, 1865 (*Schott, 175*).

TOURNEFORTIA GNAPHALODES R. Br. Prod., 496.
Downs at Progreso, April 3, 1865 (*Schott, 305*).

VERBENACEÆ.

AVICENNIA NITIDA Jacq. Enum. Pl. Carib., 25. *Mangle blanco.*
Celestun, May 12, 1865 (*Schott, 361*).

AVICENNIA OFFICINALIS Linn. Sp. Pl., 110.
A. tomentosa Jacq. Celestun, May 12, 1895 (*Schott, 473*).

Citharexylum quadrangulare Jacq. Enum. Pl. Carib., 26.
Merida, Aug. and Sept. 1865 (*Schott, 89* et spec. *sine num.*)

CLERODENDRON ACULEATUM (L.) Griseb. Fl. W. I., 500.
Merida, (*Schott, 27*).

Clerodendron Colebrookianum Walp. Rep. iv, 114.
"Rarely cultivated, one bush 4 feet high at Izamal blooming in Sept. (909).

DURANTA PLUMIERI Jacq. Select. Am., 186.* **Xcambocochó.**
D. repens and *spinosa* L. Merida, June 11, 1865 (*Schott, 381*).

LANTANA CAMARA Linn. Sp. Pl., 874. *Oregano Silvestre.* **Xo-hexnuc.**
"Shrubby, common in brushlands about Izamal, flowering from August until January" (808). "Abundant in a wild state" (*Valdez, 60*). Tekanto, shrub 6 ft. high, Feb. 25, 1890 (*Stone, 213*, in Herb. Acad. Sci., Phila.).

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*Jacquin's name (1763) is accepted by Linnaeus in his third edition Sp. Pl. 1764.

Lippia umbellata Cav. Ic., ii., 75.

"Shrubby, 10 feet high, uncommon, found only on the ancient mounds southwest of Izamal" (871, 971). Our form is not so densely hairy either on the involucre or the under surface of the leaves as *4389*, Heyde & Lux, Guatemala.

PETREA ARBOREA H. B. K. Nov. Gen. et sp. ii., 282.

"Uncommon at Calcehtoh. A woody vine, with violet-like flowers deeper colored than the purple calyx, and with a spot on the middle petal." March 11, 1890 (*Stone*, *259*, in Herb. Acad. Sci., Phila.).

PRIVA LAPPULACEA (L.) Pers. Syn., ii., 1807. **Ɔallunɔay.**

P. echinata Juss. Suburbs of Merida, and Quinta del Obispo, Nov. to Dec., 1864 (*Schott*, *22 and 23*). Tekanto, Feb. 27, 1890 (*Stone*, *186*, in Herb. Acad. Sci., Phila.).

LABIATÆ.

Cedronella Mexicana Benth. Lab. Gen. et Sp., 502. *Toronjil.*

Campo near Merida, April 14, 1887 (*Millspaugh*, *45*).

HYPTIS PECTINATA (L.) Poit., Ann. Mus. Par., vii., 474.

"Herb 5 feet high, common on brushlands about Izamal, November" (943).

Hyptis suaveolens (L.) Poit., Ann. Mus. Par., vii., 472.

"Herb 3 feet high, common along roads and in old fields about Izamal, November" (942).

Leonurus glaucescens Bunge, Ledeb. Fl. Alt., ii., 409.

Near Kikil, March 27, 1866 (*Schott*, *773*). Cult?

OCIMUM BASILICUM Linn. Sp. Pl., 833. *Alvaca.*

Campo near Merida, escaped? April 14, 1887 (*Millspaugh*, *44*).

OCIMUM MICRANTHUM Willd. Enum. Hort. Berol., 630.

Suburbs and streets of Merida, June 23, 1865 (*Schott*, *511*). Yucatan loc. ignot. (*Stone*, *sine num.*, in Herb. Acad. Sci., Phila.). Calcehtoh, March 11, 1890 (*Stone*, *265*, in Herb. Acad. Sci., Phila.).

Rosmarinus officinalis Linn. Sp. Pl., 33.

Campo at Uman, escaped, April, 1887 (*Millspaugh*, *31*).

SALVIA COCCINEA Buchoz. ex Etling. Salv., 23.

Merida, suburbs, April 14, 1865 (*Schott*, *160*, loc. ignot., *760*, in Herb. U. S. Natl. Mus.). Sitilpech, and Tekanto, Feb. and March, 1890 (*Stone*, *188*, *256*, in Herb. Acad. Sci., Phila.).

SOLANACEÆ.

Capsicum annum Linn. Sp. Pl., 270. *Chile.*
Cultivated at Merida, Feb'y 11, 1865 (*Schott, 237*). Campo near Merida, April 14, 1887 (*Millspaugh, 43*).

CAPSICUM FRUTESCENS Linn. Sp. Pl., 189.
Ticul (*Stone, 277*, in Herb. Acad. Sci., Phila.).

CESTRUM DIURNUM Linn. Sp. Pl. 277.
Suburbs of Merida, April 28, 1865 (*Schott, 123*).

DATURA STRAMONIUM Linn. Sp. Pl., 255. *Chamico.* **Mehen-Xtocu.**
"Herb 4 feet high. A very common weed in places, especially near small towns. In bloom from June to December, flowers pure white" (1062).

Nicotiana glutinosa Linn Sp. Pl., 259. **Kooɔ.**
Campo near Merida, May, 1865 (*Schott, 486*).

Nicotiana pilosa Dunal., de C. Prod., xiii., i., 559. **Kooɔ.**
"Waste grounds, campo near Uman, April, 1887 (*Millspaugh, 39*).

Physalis sp.
"Shrubby below, 3 feet high, very rare, found in fruit only, Sept. and Oct., along the road to Merida near Izamal" (1000).

Physalis angulata Linn. Sp. Pl., 262. *Jerba Mora.*
"Herb 4 feet high, abundant in fields and gardens about Izamal, in blossom throughout the year" (479).

Physalis fœtens Poir., Encycl. Suppl., ii., 348.
Merida, Nov. 28, 1864 (*Schott, 5*).

Physalis pubescens Linn. Sp. Pl., 262.
Suburbs of Merida, Dec. 4, 1864 (*Schott, 5*).

SOLANUM AMAZONICUM Ker-Gawl., Bot. Reg., t.,71. **Xkon-yaxik.**
"Shrubby, 6 feet high, abundant in opens and brushlands about Izamal, producing its bright-blue flowers throughout the year" (366). Tunkas common, flowers bright purple," March 3, 1890 (*Stone, 234*, in Herb. Acad. Sci., Phila.).

Solanum calicarpæfolium Kth. and Bou., Ind. Sem. Hort. Berol., App. 10.
Shrub 4 feet high, uncommon at the port of Ɔilam, producing its white flowers in April (652).

Solanum fuscatum? Linn. Sp. Pl. ed., ii., 268. **Xpacanul.**
Merida, July 25, 1865; Cenoté Yopop, on the road from Merida to Progreso, April 7, 1865 (*Schott, 310*). Grisebach sp. cit. Flor. Brit. W. I. places Yucatan in brackets after this species without farther reference to authority.

Solanum Jamaicense Mill. Gard. Dict., Ed. viii. 17.
"Shrubby, 10 feet high, uncommon in brushland about Izamal, April to Aug." (595).

Solanum Juripeba Rich, Soc. Hist. Nat., Par. i. 107. **He-Bech.**
"Shrubby 10 feet high, common in the forests about Izamal, producing its greenish-white flowers from Sept. to Oct." (856). In our specimens the thorns are flatly compressed and straight, spinescent on the midrib above and below, also not rare on the calyx, the leaves are subentire and very unequal at the base.

Solanum Mammosum Linn. Sp. Pl., 267.
"Herb 10 feet high, frequent on roadsides and in forests about Izamal, blossoming in October" (998).

Solanum Melongena Linn. Sp. Pl., 266. *Berengena.*
Cultivated at Merida (*Schott, 238*), not in flower Feb. 11, 1865.

Solanum rostratum Dun., Hist. Solan., 234.
"A common herb at Tekax, producing its lemon-yellow flowers in September" (1137).

SOLANUM TORVUM Sw. Prod. Veg. Ind. Occ., 47.
"Shrubby, 4 feet high, common at Progreso" (1167)

SOLANUM VERBASCIFOLIUM Linn. Sp. Pl., 263.
"Shrubby, 10 feet high, abundant in waste places and brush lands, flowering throughout the year, Izamal" (581). Suburbs of Merida, April 14, 1865 (*Schott, 339*).

SCHWENKIA AMERICANA Linn. Gen., ed. vi. 567.
"Along railroad near Izamal" (969 pt.).

SCROPHULARIACEÆ.

Angelonia angustifolia Benth., de C. Prod., x. 254. *Boca de la Viaja.*
"Herb 1 to 3 feet high, rarely cultivated at Izamal, where it produces its deep-blue flowers throughout the year" (544). Cultivated for its medicinal properties" (*Valdez, 59*).

BUCHNERA MEXICANA Hemsl. Biol. Centr. Am. Bot., ii. 457.
Grassy fields at Nohpat, Nov. 24, 1865 (*Schott, 826*).

CAPRARIA BIFLORA Linn. Sp. Pl., 628.
"Suffrutescent 4 feet high, common in brushlands about Izamal, March" (409, 590 in part). "Growing wild near Merida" (*Valdez, 98*). Merida, about houses, Nov. 30; and at the Cenote Ɔambula Dec. 14, 1864 (*Schott, 455, 70*).

Conobea pusilla (Benth.) Benth. & Hook. f. Gen., ii. 951.
"Herb 3-8 inches high, common in shady places near Izamal, producing its violet-blue flowers from July to August" (764).

CAPRARIA SAXIFRAGÆFOLIA Cham. & Schl. in Linn., v. 105.
Tekanto, flowers light blue, only one specimen seen, Feb. 28, 1890 (*Stone, 182*, in Herb. Acad. Sci., Phila.).

MONNIERA MONNIERA (L.) Britt., Mem. Torr. Club., v. 292. **Xaxcach.**
"Prostrate herb, abundant at the Aguada de Chulubmay, 9 miles east of Izamal, March" (1096).

MONNIERA PROCUMBENS (Mill) Kuntze Rev. Gen., 463.
Herpestis chamaedryoides H. B. K. Merida, Aug. 29, 1865 (*Schott, 616*). Tekanto, Feb. 27, 1890 (*Stone, 195*, in Herb. Acad. Sci.). Phila.

BIGNONIACEÆ.

Adenocalymna sp. **Chacanicab.**
"A bijuco, very common in the forests about Izamal, producing its gamboge-yellow flowers in April and May" (575).

Bignonia æquinoctialis Linn. Sp. Pl., 869. **Chacanicab.**
"Vine 40 feet, frequent in the forests near Buena Vista Xbac, April" (1068, 1098). Yucatan loc. ignot. (*Schott, 399*), "universally used as binding in constructing thatch roofs."

Bignonia diversifolia H. B. K. ? Nov. Gen. iii., 133. **Chacxnetoloc.**
"Vine 40 (795) to 100 feet, uncommon in the forests about Izamal, producing its purple flowers from June to Sept." (725, 795). **Oolak, Xcolak,** Merida, June 1 and Aug. 6, 1865 (*Schott, 406, 560*).

Bignonia mollis Vahl? Ecl. Am. ii., 46. **Sacak.**
"Vine 40 feet, common in the forests about Izamal, producing its reddish-purple flowers in June" (739).

Bignonia Unguis-cati Linn. Sp. Pl. 623. **Xcanlol-ak.**
"Vine 20 feet, common in the forests about Izamal, flowers yellow, produced in March" (507). Merida, May 20, 1866 (*Schott, 776*).

CRESCENTIA CUJETE Linn. Sp. Pl., 626. **Huas.**
Merida, June, 1865 (*Schott, 521*).

Parmentiera cereifera Seem., Bot. Voy. Herald, 182. **Xcat-cunc.**
Merida, Aug. 25, 1865 (*Schott, 382*). Leaves, inclusive of the petiole, 1 inch long. "Shrub 12 feet high, common about Izamal, producing its neutral-green flowers throughout the year" (338). Leaves, including petiole, 2 to 2½ inches long.

Cat
PARMIENTERA EDULIS Mocq. de C. prod. ix., 244. ~~**Kaat.**~~
Merida, Quinta del Obispo, cult? March 12, 1865 (*Schott, 242*).

[illegible] [illegible]
#23 [illegible]

Pithecoctenium hexagonum de C. Prod. ix., 195. **Xnetoloc.**
"Vine 50 feet, common in the forests about Izamal, the creamy-white flowers produced in May and June" (702). Mr. J. H. Thompson sends me a fine example of the fruit, remarking that the Mayas use the seeds as a remedy for frontal headache, by moistening and applying them to the forehead or temples according to the location of the pain.

Tabebuia sp. **Xha-hau-ché.**
"Tree 30 feet high, rare in the forests of Buena Vista Xbac, April" (1048). Flowers only collected.

TECOMA STANS Juss. Gen. 139.
Calcéhtoh and Tunkas, bush 6–7 feet high, March 11, 1890 (*Stone*, *258*, in Herb. Acad. Sci. Phila.).

PEDALIACEÆ.

MARTYNIA DIANDRA Glox. Obs. t. 1.
At the Hacienda Saragossa, Sept. 8, 1865 (*Schott*, *623*).

ACANTHACEÆ.

BOUCHEA PRISMATICA (Linn.) Kuntze Rev. Gen. 502.
"Herb 4 feet high, common at Yaxcaba and Tekax, October" (1139).

BRAVAISIA TUBIFLORA Hemsl.
A common bush on the sand hills of Progresso, March 29, 1890 (*Stone*, *287*, in Herb. Acad. Sci., Phila.).

DIAPEDIUM ASSURGENS (Linn.) Kuntze, Rev. Gen., 485. *Pensamienta.*
Suburbs of Merida, Dec., 1864 (*Schott*, *154*).

HENRYA COSTATA A. Gray.
Tetramerium costatum. Tunkas, March 3, 1890; 2 feet high, flowers yellow striped above with reddish brown (*Stone*, *244*, in Herb. Acad. Sci., Phila.).

RUELLIA ALBICAULIS Bert. Spreng. Syst., ii., 822.
Merida, Nov. 1864 (*Schott*, *2*).

Ruellia geminiflora H. B. K. Nov. Gen. et. Sp. ii., 240.
Tekanto, flowers lilac, only one plant seen, Feb. 27, 1890; Tunkas common, March 3, 1890 (*Stone*, *185*, *242*, *247*, in Herb. Acad. Sci. Phila.). Dr. Gaumer's 384, collected Oct. 1895 near Izamal, and referred on page 320 doubtfully to R. Tweediana, is doubtless also this species.

RUELLIA TUBEROSA Linn. Sp. Pl., 635. **Cabal-Yaxnic.**
Merida at Quinta del Obispo, Nov. 24, 1864, and April 13, 1865 (*Schott*, *45*, *282*). Izamal, Feb. 28, 1890 (*Stone*, *254*, in Herb. Acad. Sci. Phila.).

SIPHONOGLOSSA SESSILIS (Jacq) Oerst.
"Suffrutescent 2 feet high, common in waste places near Izamal, April" (532).

TUBIFLORA SQUAMMOSA (Jacq) Kuntze, Rev. Gen., 500.
Merida, at Quinto del Obisbo, Nov. 23, 1864 (*Schott, 24*).

VALERIANODES JAMAICENSE (Linn.) Boerh. (Med.) Phil. Bot. i., 177.
"Herb 4 feet high, common at Merida, Izamal and inland" (1160).

PLANTAGINACEÆ.

PLANTAGO MAJOR Linn. Sp. Pl., 163. *Llanten.*
Merida, at Quinta del Obispo, Jan. 18, 1865 (*Schott, 193*).

RUBIACEÆ.

ERNODEA LITTORALIS Sw. Prod. Veg. Ind. Occ. 29.
Downs at Progreso, April 4, 1865 (*Schott, 287*).

Exostemma Caribæum (Jacq.) R. & S. Syst. v. 18. **Sabac-ché.**
"Shrub 20 feet high, not common at Xcholac" (957). Merida, Aug. 20, 1865 (*Schott, 585*).

CHIOCOCCA RACEMOSA Linn. Sp. Pl. 246. **Xcanchac-ché.**
Merida, July 28, 1865 (*Schott, 569, 499*).

Coffea Arabica Linn. Sp. Pl., 245. *Cafe.*
Cult? Merida, in flower and fruit Jan. 1866 (*Schott, sine num*).

CRUSEA CALOCEPHALA de C. Prod. iv., 567.
"At the Hacienda Mucuyché on road from Merida to Sacalum" (*Schott, 676*). "Herb 3 feet high, common on old fields, and in waste town lots at Izamal" (937).

HAMELIA PATENS Linn. Sp. Pl., 246. **Kanan.**
Suburbs of Merida, and in gardens Nov. 30, 1864 (*Schott, 174*).

MORINDA ROYOC Linn. Sp. Pl., 250. **Hoyoc.**
Near Merida (*Valdez, 67*). At Nohcacab, Nov. 27, 1865 (*Schott, 709*). Tunkas, a shrubby climber, March 3, 1890 (*Stone, 240*, in Herb. Acad. Sci. Phila.).

Psychotria undata Jacq. Hort. Schoen. iii., 5. *Cancerillo.*
"The dried and powdered, or toasted leaves used in the cure of **Uaga**, a form of malignant pustule." Merida, July 6, 1865 (*Schott, 524*). Differs from the description only in having some of the stipules awn-pointed.

RANDIA ACULEATA Linn. Sp. Pl., 214.
North of Merida on road to Progreso, April 7, 1865 (*Schott, 262*). Merida (*Schott, sine num* in Herb. U. S. Natl. Mus.).

SPERMACOCE TENUIOR Linn. Sp. Pl. 147.
"Herb 18 inches high, frequent in shady situations near Izamal" (965). Merida, at Quinta del Obispo, Nov. 24, 1864 (*Schott, 57*). Nohcacab, Oct. 19, 1865 (*Schott, 972*).

SPERMACOCE VERTICILLATA Linn. Sp. Pl., 148.
Merida, 1865; Nohcacab, Oct. 19, 1865; Ruins of Uxmal, Sept. 16, 1865 (*Schott, 117, 971, 972*). Tekanto common, Feb. 25, 1890 (*Stone, 207*, in Herb. Acad. Sci., Phila.).

CAPRIFOLIACEÆ.

SAMBUCUS CANADENSIS Linn. Sp. Pl., 269.
Merida, (Cult?), Jan. 3, 1865 (*Schott, 180*).

CUCURBITACEÆ.

CAYAPONIA ALATA Cogn. de C. Monogr. 3.
Hacienda Saragossa, Sept. 8, 1865 (*Schott*, type *901*).

CAYAPONIA GRANDIFLORA Cogn., de C. Monogr. 3.
Ticul, Oct. 21, 1865 (*Schott*, type *680*).

Lonicera macrantha ? (Don.) de C. Prod. iv. 333.
Vine 10 feet, uncommon in the forests of Tekax, September (1105).

LUFFA ÆGYPTIACA Mill., Gard. Dict., ed. 8.
L. cylindrica Rœm. Suburbs of Merida, November 30, 1864 (*Schott, 6*).

MELOTHRIA PENDULA Linn. Sp. Pl., 35.
Merida, June, 1865 (*Schott, 572*). "The leaves are used by the Mayas to extract foreign bodies from beneath the eyelids." Leaves less lobed than in other Yucatan collections.

CORALLOCARPUS MILLSPAUGHI Cogn. F.Col.Mus.Bot.,i,322. **Xlucloan.**
Merida, July 11, 1865 (*Schott, 479*).

Pittiera longipedunculata Cogn., Bull. Soc. Bot. Belg. xxx, 272. **Ponponoit.**
"A vine 10 feet, rare in moist places near Tekax, September" (1135).

Cucumis Anguria Linn. Sp. Pl. 143*6*. **U-habaplat-oil-Kax.**
"An infrequent vine, Tekax, September" (1127). "Vine 20 feet, rare, Progreso" (1158).

MELOTHRIA PENDULA Linn. Sp. Pl., 49.
"Vine 15 feet, common near Progreso" (1180).

Melothria fluminensis Gardn. Jour. Bot., i, 173.
"Vine 10 feet, uncommon near Progreso" (1181). Merida, November, 1865 (*Schott, 900*).

MOMORDICA CHARANTIA Linn. Sp. Pl. 1433.
"Vine 20 feet, common in waste places at Tekax, September" (1124). Hacienda Guayalcé, September 19, 1865 (*Schott, 633*).

TRICERATIA BRYONIOIDES A. Rich., Ess. Fl. Cub., 614.
Sicydium tamnifolium Cogn. "Vine 25 feet, common in stony soil and on stone fences near Izamal, October and November" (922).

GOODENIACEÆ.

SCAEVOLA PLUMIERI (L) Vahl. Symb. ii, 36.
Sandy seashore at Progreso, April 5, 1865 (*Schott, 294*).

COMPOSITAE.*

Achillea Millefolium Linn. Sp. Pl., 899. *Alcanfor.*
Campo about Merida, not in flower, April, 1887 (*Millspaugh, 47*).

AGERATUM CONYZOIDES Linn. Sp. Pl., 839.
Near Merida, January 4, 1865 (*Schott, 208*).

ALOMIA AGERATOIDES H. B. & K., Nov. Gen. et. Sp. iv. 151.
Tekanto and Tunkas, February and March, 1890 (*Stone, 190, 238*, in Herb. Acad. Sci., Phila.).

BIDENS LEUCANTHA Willd Sp. Pl., iii. 1719.
"Herb 2 feet high, abundant at the Port of Silam, rays white, April" (632).

Bidens tereticaulis de C. Prod., v. 598.
Merida, December, 1864 (*Schott, 145*). Tunkas, March 3, 1890 (*Stone, 240*ª in Herb. Acad. Sci., Phila.). "Ascending among shrubbery like a vine, producing its orange-yellow flowers in October" (951).

Brickellia diffusa A. Gray, Pl. Wright., i. 86.
"Herb 10 feet high, uncommon in fields and brushlands near Izamal, flowering from December to March" (1080).

Calea axillaris urticifolia Rob & Greenm. Proc. Am. Acad. Sci., xxxii, 27.
Shrubby 5-6 feet high, flowers yellow, Tunkas, March 3, 1890 (*Stone, 243, 245*, in Herb. Acad. Sci., Phila.). "Shrubby 15 feet high, ascending among shrubs in the brushlands near Izamal" (956).

Calea Zacatechichi Schl. in Linn. ix, 589. **Xicin.**
Nohpat, November 24, 1865 (*Schott, 912*).

Cosmos caudatus H. B. & K. Nov. Gen. et. Sp. iv. 240. **Chacxul.**
"Herb 4 feet high, uncommon at Izamal" (940).

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* Determined (with the exception of Pectis) by Mr. J. M. Greenman.

DYSODIA CANCELLATA A. Gray, Proc. Am. Acad. xix, 38.
Merida, December 4, 1864 (*Schott, 78*).

Eclipta alba Hassk. Pl. Jav. Rar., 528.
"Herb 10 inches high, in shady places near Izamal, uncommon, October" (1012).

ERIGERON CANADENSIS Linn. Sp. Pl., 863.
Charcos at Celestun, May 12, 1865 (*Schott, 362*).

EUPATORIUM CONYZOIDES Vahl. Symb. Bot., iii. 96.
Suburbs of Merida, December, 1864 (*Schott, 144*). "Ascending 15 feet, among other shrubbery and on old fences in the brushlands about Izamal, producing its heliotrope-colored flowers in October" (914, 953).

EUPATORIUM PYCNOCEPHALUM Less. in Linn. vi. 404.
"Herb 6 feet high, common at Aguadas near Izamal, October" (1022).

FLAVERIA LINEARIS Lag. Gen. et. Sp. Nov., 33, 407.
Celestun, May 12, 1865 (*Schott, 408*).

Flaveria repanda Lag. idem.
Downs of Progreso, December, 1865 (*Schott, 973*). "Merida and Progreso, along the coast" (1147 part).

Helianthus annuus Linn. Sp. Pl., 1276. *Girasol.*
Campo, suburbs of Uman, escaped, April, 1887 (*Millspaugh, 32*).

Isocarpha oppositifolia R. Br., Tr. Lin. Soc., iii., 110.
Tizimin, March 28, 1866 (*Schott sine num.*). "Herb 5 feet high among the shrubbery of the brushlands and forests near Izamal, October to January" (976).

MELANTHERA HASTATA Michx., Fl. Bor. Am., ii., 106.
Amellus niveus (L.) O. K. Merida, May 30, 1865 (*Schott, 164.*)

MELAMPODIUM PALUDOSUM H. B. & K., Nov. Gen. et. Sp. iv., 273.
M. divaricatum de C. Merida, Nov. 14, 1864 (*Schott, 28*). Calcehtoh, Mar. 11, 1890 (*Stone 272*, in Herb. Acad. Sci. Phila.) "Common in open places near Izamal, Nov." (961).

Mikania cordifolia Willd., Sp., Pl., iii., 1746.
About Nohcacab, Nov. 1865 (*Schott, 716*).

Milleria quinqueflora Linn. Sp. Pl. 919. **Xyoutoloc.**
Cercanias about Merida, Nov. 15, 1864 (*Schott, 90*). "Herb 9 feet high, abundant in fields and vacant lots about Izamal. Flowering from Oct. to Jan'y" (949).

Montanoa grandiflora Hemsl.? Bio. Cent. Am. Bot., ii., 165.
Tizimin, Mar. 28, 1866 (*Schott, sine num*).

Pectis elongata Schottii Fernald.* Proc. A. A. A. S., xxxiii., 78.
"Much more slender in its diffuse branches than the species, leaves small, heads scattered and solitary in the axils, on capillary 3-4-bracteate peduncles 2 or 3 cm long: involucre pale, 4 mm high; pappus hardly equaling the akene. Serceania near Maxcanú, Sept. 14, 1866" (*Schott, 666*, Cat. No. of Type 40483 Herb. Field Col. Mus.).

Pectis linifolia Linn. Syst., Ed. x. 1221.
P. pectinata Jacq. "Herb 2 feet high, stone walls near Izamal, uncommon" (979).

PECTIS PROSTRATA Cav., Ic., iv., 12.
"Herb 6 inches high, common along roads and paths in the forests about Izamal" (1092). Merida, Aug. 20, 1865 (*Schott, 533*).

Pluchea camphorata de C., Prod. v., 452.
"Herb 6 feet high, abundant at Chulubmay, producing its purple flowers in March" (1099).

PLUCHEA ODORATA Cass. Dict. Sc. Nat. xlii., 3 **Chalché**
Salt swamps at Sisal, Nov. 9, 1865 (*Schott, 915*). Specimens gathered by Dr. Schott at Merida (*185*) and by myself at Izamal (*Armour Expd 176*) were doubtless introduced from the coast, as the plant is used in Yucatec domestic medicine much as is boneset in the United States.

PLUCHEA PURPURASCENS de C., Prod. v., 452.
"Herb 6 feet high, old fields about Izamal, uncommon, producing its rose-colored flowers in October" (1002).

Porophyllum Ervendbergii A. Gray, Proc. Am. Acad., xix., 35. **Xpeehukil.**
Merida, at the Quinta del Obispo, Nov. 15, 1864 (*Schott, 81*).

SANVITALIA PROCUMBENS Lam., Jour. His. Nat. Par., ii., 176. **Xkantumbub**
Merida, where it is used by the Mestizas as a remedy for the spitting of blood, Nov. 29, 1864 (*Schott, 14*). "Herb 18 inches, common at Cacalchen and Euan, producing its yellow and red-brown flowers from June to March" (964).

Sclerocarpus divaricatus B. & Hook. f., Biol. Cent. Am. Bot. ii., 164.
Labcah, July 30, 1865 (*Schott, 67*). "Herb 3 feet high, abundant in old fields near Izamal, from July to Jan'y" (410 part, 771).

Senecio Berlandieri (de C.) Hemsl. Biol. Cent. Am. Bot., ii., 236.
Gynoxis de C. A climber among mimosa trees near Sisal (*Schott, 407*).

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* The species of this genus were determined by Mr. M. L. Fernald.

SYNEDRELLA NODIFLORA Gaertn. Fruct. ii. 456.
Merida, at the Quinta del Obispo, Nov. 15, 1864 (*Schott, 93*). "Herb 6-18 inches high, common in waste places near Izamal, in bloom throughout the year" (359, 952).

TAGETES PATULA Linn. Sp. Pl., 887.
On the Teocali of Kabah, Nov. 26, 1865 (*Schott, 708*). Calcehtoh, Mar. 11, 1890 (*Stone, 273*, in Herb. Acad. Sci. Phila.).

TITHONIA DIVERSIFOLIA A. Gray, Proc. Am. Acad., xix. 5. *Arnica.*
"Herb 15 feet high, quite shrubby, cultivated at Izamal where it blooms in November" (944).

Tithonia tagetiflora Desv. Ann. Mus. Par., i., 46. **Zum**
Merida, Dec. 3, 1864 (*Schott, 68*). "Herb 10 feet high, abundant in old fields, producing its orange-yellow flowers from Aug. to Sept." (899).

TRIDAX PROCUMBENS CANESCENS de C., Prod. v., 679.
Tekanto, Feb. 27, 1890 (*Stone, 212*, in Herb. Acad. Sci. Phila.).

TRIXIS FRUTESCENS P. Br., Pl. Jam. 312.
T. radialis (L) O. K. Merida, Feb. 2, 1865 (*Schott, 189*).

VIGUIERA HELIANTHOIDES H. B. & K. Nov. Gen. et. Sp., iv., 226. **Toh.**
Suburbs of Merida, Jan. 1, 1865 (*Schott, 190*). "Herb 2 to 5 feet high, very abundant in old fields about Izamal and Xcholac, Oct. to May" (502, 557).

Xanthium Canadense Mill. Gard. Dict., ed. viii., 2.
"Herb 2 feet high, uncommon near Merida where it has probably been introduced in foreign baled hay" (1145).

Zexmenia Costaricensis Bth. Oerst. Kjob. Medd. 95. **Sactah.**
Between Guayalceh and Yumuó, Oct. 2, 1865 (*Schott, 914*). "A shrubby climber, 20 feet, on an artificial mound 8 miles southwest of Izamal, Nov." (960, 962.)

Notes and New Species—Prof. Ludwig Radlkofer; A New Myginda—Dr. Theodor Loesener; and Additional Notes and Species by the Author.

ULMACEÆ.

Mertensia lævigata H. B. K. Nov. Gen. et. Sp., ii., 31.

Celtis aculeata Sw. ex Ind. Kewens., sed vix recte ob folia integerrima; inde Celtis lævigata nominanda—Radlkofer.

"Common at Buena Vista Xbac, flowering in May" (567).

CAPPARIDACEÆ.

Forchhammeria trifoliata Radlk. sp. nov. *Tres Marias.*

Arbor glabra; rami florigeri pallidi, lenticellosi, annulo ligni (librique) dupliori insignes; folia ad ramorum apices conferta, petiolata, trifoliolata; foliola ex obovato cuneata, breviter acutiuscule acuminata vel obtusata, breviter petiolulata, margine integerrimo subundulata, pallide viridia, fibris sclerenchymaticis crebris percursa; flores parviosepali, apetali, masc. in paniculam amplam congesti, staminibus 12–15 disco insertis, fem. subracemosi, germine intra staminodia pauca disco insidente ellipsoideo 2–(rarius 3–) loculari, stigmate sessili 2(–3)–lobo, gemmulis in loculis binis ad media septa crassiuscule carnosa vel ad angulos centrales collateraliter affixis pendulis anatropis epitropis; fructus ignotus.

"*Arbor* 30-pedalis sat rara" (Gaumer). *Rami* florigeri diametro 6 mm. teretes, lenticellis crebris breviter ellipticis sulco mediano notatis obsiti, jam annulum secundum fasciculorum fibrovasalium ut in Roydsia et Maerua (cf. Radlkofer in Sitzungsber. K. bayer. Acad. XIV, 1884, p. 90) intra libri primarii fibros sclerenchymaticos (nec ut in Forchhammeria pallida Liebm. et F. apiocarpa Radlk. extra illos, cf. l. c.) ortum exhibentes. *Folia* innovationum inferiora sub gemmis dormientibus abortiva vel in squamulas conversa, superiora petiolo 3–10 cm. longo adjecto 14–24 cm. longa, 10–16 cm. lata. foliola petiolulatis 3–4 mm. longis adjectis 10–16 cm. longa, 3,5–6 cm. lata. lateralia paullominora subcoriacea, penninervia, nervo mediano supra planiusculo subtus convexo sat valido siccitate undulato in apicem callosum excurrente, nervis lateralibus sat numerosis (12–18) dentibus oblique patulis ante marginem arcuato-anastomosantibus, inter nervos retivenarum obliquo (quasi vena ramificata ab arcu ad nervum medianum recurrente) notata margine linea cartilaginea circumvallata, glaberrima, utrinque opaca vel supra subnitida, epidermide nunc conspicue, nunc vix crystallophora, diachymate arcte fibroso, hypodermate ad paginam superiorem vix nisi juxta nervos instructa; petiolus a dorso adventrem compressiusculus, striatus, supra sulco angusto notatus, basi incrassatus cum ramulo articulatus; stipulae minimae, apiculos glanduliformes ad mediam petioli insertionem (vel folii cicatricem) exhibentes. *Florum masc.* paniculae densiflorae, pyramidales, 17 cm. longae, 6 cm. latae, ramis racemiformibus praeter florem terminalem saepius luxuiantem flores complures laterales pedicellatos hic inde in dichasia consociatos in axillis bractearum parvularum subulatarum gerentibus, adjectis interdum floribus rudimentaritis; pedicelli 3-6 mm. longi. *Sepala* bracteis conformia, parva, 1.5 mm. longa, subulata, 4–6; Petala 0. *Discus* pulvinatus. *Stamina* supra discum inserta, filiformia, glabra, antheris brevibus, basi subcordatis, subintrorsis, ad connectivi basin dilatatam dorso insertis. *Pistilli* rudimentum 0. *Florum foem.* inflorescentiae racemiformes (polychasia) in axillis foliorum 5 cm. longae, ima basi utrinque ramum aequilongum emittentur praeter florem terminalem, flores complures laterales, pedicellatos vel eorum loco hic inde dichasia vel polychasia parvula in axillis bractearum subulatarum vix 2 mm. longarum gerentes; pedicelli 2–3 mm. longi. *Sepali* bracteis conformia, 4–6. *Petala* 0. *Discus* elevato-pulvinatus, carnosus. *Staminodia* 5–6, 1-seriata, stamina rudimentaria abbreviata antheris sterilibus exhibentia. *Germen* ellipsoideum, 2 mm. longum, 1.5 mm. latum, basi coarctata subsessile, plerumque biloculare; stigmatis lobi dorsales.

Yucatan: Dr. G. F. Gaumer n. 370! (flor. foem. m. Feb. 1895); n. 417! (flor. masc. m. Mart. 1895).*

Obs. A Forchhammeriae specibus reliquis (F. pallida Liebm., F. apiocarpa Radlk. F. Watsoni Rose) recedit foliis compositis et floribus masculis paniculatis nec non foliorum fabrica (hypodermate minus conspicuo, epidermate interdum vix crystallophora, diachymate fibris percurso), insuper ligni annulo secundo intra libri primarii fibros (nec extra eos) oriente. Attamen vix dubie ejusdem generis est.

MALPIGHIACEÆ.

Malpighia glabra acuminata A. Juss.

Ex descr.—Radlkofer. "Shrub 15 feet high, not common in the forest and brushlands about Izamal, where it produces its showy rose-pink flowers in November" (972).

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*Branch of female shrub 20 feet high, collected at the base of the smaller mound at **Izamal**, January (*Millspaugh, A. V. Armour Exped.* 86).

RUTACEÆ.

Casimiroa tetrameria Millsp. sp. nov.

Arbor glabra, 30 pedalis, rami pallidi verrucosi, foliis alterna terminalia longe (5–9 cm.) petiotata, dense et molliter hirsuta, digitatim 3–5-foliolata, foliolis ovato-lanceolatis integerrimis e basi cuneatis in acumen emarginatum terminatis, omnia breviter petioulata, duo inferiora frequenter auriculo-lobulata. Florum masc. in paniculae ramosae axillares et extra-axillares ad cicatricis foliorum antiquus, 2–7 cm. long. 1–5 cm. lat., pubescentibus, ramis plus minus racemiformibus; pedicellis floribus aequantis, bractæ minutae stipuliformis, calyce tenuis 4-dentibus, petala 4, crassiuscula carnosa, stamina 4, erecta, infra discum inserta ad basi crasiuscula, antheris verticillatis, discus minutis. Flor. foem. et fruct. ignot.

Folia 18–24 cm. long., foliola 6–10 cm. long., 2.5–5 cm. lat. Rara ad Xcholac, m. Nov. (1006).

Esenbeckia pentaphylla Griseb. Fl. Brit. W.I., 135. **Yax-hocob.**

Ex descr.—Radlkofer. "Tree 50 feet high, uncommon in the forests about Izamal, producing its cream-colored flowers in July" (752).

EUPHORBIACEÆ.

Adelia Oaxacana (Muell.) Hemsl. Biol. Cent. Am. Bot., iii. 129? **Xtompac.**

Ex descr.—Radlkofer. "An abundant shrub 20 feet high, Xcholac, February" (446).

CELASTRACEÆ.

Myginda Gaumeri Loes. sp. nov.

Ramulis parva et tenuiter hirtellis; foliis progenere majusculis, ovata-lanceolatis, minute serrulatis, basi cuneatis, apice obtusis et minute apiculatis, tenuiter coriaceis, glabris, 5–9.5 cm. longis, 2–3.4 cm. latis, supra et subtus dense prominulo et reticulatim nervosis; inflorescentiis in foliorum axillis solitariis, dichotome furcatis, sub lente parce et tenuiter hirtis, bracteis minutis; floribus numerosis, 4-meris; calyce extrincecus tenuissime pilosulo, sepalis obtusis; petalis rotundatis; disco lobis 4, subemarginatis formato; staminibus inter eius lobos insertis, parvis; ovario 2-loculari, in stylum brevissimum angustato; loculis 1-ovulatis, ovulis erectis, stigmate parvo capitellatis.

Yucatan, Buena Vista Xbac: Gaumer n. 1049. Flor. m. Apr. Petala in sicco brunneo-violacea sed postquam in aqua cocta colorem glauco-coeruleum ostendunt. "Frutex sylvicola, 15 pedalis."

HIPPOCRATEACEÆ.

Hippocratea Grisebachii Loes. Eng, Prantl. Nat. Pfl. iii.5, 227. *H. verrucosa* Griseb. in Goett. Abh. xxiv: 84 (1879) Non H. B. K. Nov. Gen. et Sp., v. 136 (1821), teste Loesener ipso in litl. "Vine 25 feet, common in forests about Izamal, February" (385).

SAPINDACEÆ*

Allophylus Cominia Swtz. Prod. Veg. Ind. Occ., 62 (1788). *Schmidelia Cominia* Swtz. Prod. Veg. Ind. Occ., ii. (1800). "Shrub 20 feet high, common in forests about Izamal, August" (893).

[CARDIOSPERMUM CORINDUM molle Radlk. *C. molle* H. B. K.—C. Corindum *forma* 3 molle. Radlk. Flor. Brazil Fasc. 122:447 (Sept. 1897.) Gaumer's 494 (Contrib. ii:306) has not been seen by Prof. Radlkofer, the above note is simply bibliographic.]

Paullinia Cururu Linn. Sp. Pl. 365. "Vine 50 feet, common in the forests of Buena Vista Xbac, April" (1041).

PAULLINIA FUSCESCENS GLABRESCENS Radlk. *Paullinia Curassavica* of Biol. Centr. Am., Bot. iv:3, Millspaugh Contrib. Fl. Yuc. I:33, is to be replaced by Paullinia fuscescens Kth., forma 3. glabrescens Radlk., Monogr. Paullin. (1895-96) in Abhan. K. bayer. Acad., 283, (Sep. 217) line 10 from below. The true Paullinia Curassavica of Linné, is a Serjania -S. Curassavica Radlk., in Monogr. Paull., 305 (Sep. 239). The plant collected on the Island of Cozumel by Gaumer and noted in Biol. Cent. Am., Bot. iv:3 has been overseen (sic) in Radlk. Monogr. Paull. The quotation of Grisebach Fl. Brit. W. Ind. by Hemsley is right for the Columbian plant, not that of Jamaica, which is P. Jamaicensis Macf.

"Vine 30 feet, common in forests about Izumal, Sept. and Oct." (900).

Sapindus Saponaria inaequalis (de C) Radlk.

Sapindus Saponaria L. forma inaequalis Radlk., *S. inaequalis* de C. This is the "Sapindus sp. near divaricatus Willd" published in Biol. Centr. Am., Bot. iv. 3, collected by Dr. Gaumer on the Island of Cozumel in 1886, which I have seen; also 396 Gaumer "common about Izamal, flowering in February."

(I observed this form growing plentifully at the Laguna Columbia and Cedral, Island of Cozumel in 1895 while accompanying the Allison V. Armour expedition, and collected it also at Izamal. C. F. M.)

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*Professor L. Radlkofer.

Serjania adiantoides Radlk. sp. nov. **Bui.**

Fructu et habitu in Sect. xii. (Synococcus) affinis Serjaniae orbiculari Radlk., insignis caulibus subherbaceis in angulis pilis patentibus hirsutis, foliis sub-bipinnatis 4-jugis, jugo infimo utrinque 5-foliato pinnato, sequenti ternato, reliquis simplicibus, floribus in thyrsis bicirrosis ob rhachim abbreviatam subumbellatim confertis. (Habitu quo dammodo in mentem revocat Paulliniam thalictrifoliam Juss.).

Yucatan: Dr. G. F. Gaumer n. 1114 (Buena Vista Xbac, m. Sept. 1895, alab. et fruct.; stirps rara, ad altitudinem "10 ped." scandens.

SERJANIA ATROLINEATA Sauv. & Wr. Fl. Cuba, 24.

Serjania Scatans Radlk. Monogr. Serj. 213., see Radlk. Serj. Suppl., 1886:116. This replaces the Seriana scatans (Radlk) on p. 33 of these contributions.

Serjania goniocarpa Radlk. Serj. Monogr. 309.

"Vine 60 feet, abundant in forest and brush lands about Izamal where it flowers in September" (973).

SERJANIA PLICATA Radlk. Monogr. Serj. 167.

Not Seriania plicata (Radlk.) as listed on p. 33 of these contributions.

Talisia olivaeformis (Kth.) Radlk., in Sitz. K. bayer. Acad., viii. 342. *Guayo.* **Uayum.**

Melicocca olivaeformis Kunth. "Tree 60 feet high, common in the forests of the peninsula, and cultivated in the villages. February to April" (406).

Thouinia paucidentata Radlk. sp. nov.

Arbor "30 pedalis, vulgaris" (Gaumer); folia ternata (petiolo 2 cm. longo adjecto 6-7 cm. longo); foliola lanceolata, in acumen obtusum terminata, supra medium remote obtuso-dentata, praeter nervorum axillas subtus barbatas glabra, impunctata, epiderme mucigera; thyrsi axillares, racemiformes, eramosi, breves, stricti, puberuli; flores in axillis bractearum per brevium plerumque bini, pedicellati, puberuli. (Fructus non suppetebant.)

Yucatan: Dr. G. F. Gaumer n. 865! (m. Aug.-Sept. 1895, flor.)

Urvillea ulmacea genuina Radlk.

Urvillea ulmacea Kunth, forma 1 genuina Radlk., in Sitz. K. bayer. Acad., viii. (1878): 263, 264; et in Fl. Braz. Fasc. 122 (1897): 423.

"Vine 20 feet, abundant in brush lands about Izamal, January to July 481."

(Through an error in the printer's make-up of p. 307, Contribution ii., this species is included under Vitaceæ instead of preceding that order at the head of the page.)

VIOLACEÆ.

Hybanthus Yucatanensis Millsp. sp. nov.

Frutex "8 pedalis," caule albo erecto, sparsim aculeato, ramoso; ramis junior. viridis quadrangularis, angulis tenuiter papyraceo-alatis; foliis ramibus plerumque fasciculatis vel alternis, cuneato-lanceolatis margine regulariter crenato-dentatis, apice plerumque acutis, quandam obtusis rarissime emarginatis, petiolo plus minus patentibus, rarissime 1–2 mm. longo. Floribus minimis fasciculatis pedunculatis; pedicellis unifloris farinaceis. Sepalis ovatis acutis margine ciliatis, petalo infimo calyce duplo longiore, basi saccato apice cucullato integerribus, lateralibus et superioribus ovatis obtusis margine erosis; antheris columnaris, glandula nectarea magna conchæformis, stylo nepenthæformis, ovario ovato subtrisulcato (junior.).

"Infrequens ad Izamal, Yucatan m. Feb.-Mart. n. 469, flores virido-flava." Dr. G. F. Gaumer, 1895.

SAPOTACEÆ.

Bumelia obtusifolia buxifolia Miq. et Eichl. Fl. Bras. vii: 47.

Puomucuy.

"Shrub 15 feet high, abundant in brushlands about Izamal, March to April" (473).

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BOTANICAL SERIES. VOL. I, NO. 5.

STUDIES IN THE HERBARIUM.

I.

HIGINBOTHAMIA,

A NEW GENUS, AND OTHER NEW DIOSCOREACEÆ.

NEW AMARANTHACEÆ.

BY

EDWIN B. ULINE, PH.D.

CHARLES FREDERICK MILLSPAUGH, M.D.,
Curator, Department of Botany.

CHICAGO, U. S. A.
August, 1899.

STUDIES IN THE HERBARIUM. I.

BY

EDWIN B. ULINE, PH.D.

In looking over the *Amaranthaceæ* and *Dioscoreaceæ* of Dr. C. F. Millspaugh's recent Yucatan and West Indian collections with a view to determining those families for publications now in preparation, a number of new forms in the museum herbarium came under my notice, some of which proved so interesting that it was thought fit to prepare them separately for immediate publication. The results further confirm the opinion of the writer, acquired during a considerable special study of both families, that we are yet a long way from a final clear understanding of the real relationships existing in these two difficult groups.

I acknowledge with pleasure the many helpful suggestions for which I am indebted to Dr. Millspaugh, and the kindness of Mr. Lansing, of the Department of Botany, in the preparation of the drawings.

DIOSCOREACEÆ.

A glance at the few representatives of *Dioscoreaceæ* in the Herbarium at the Field Columbian Museum gives added confirmation to the testimony of all who have made a special study of the group, *i. e.*, that our knowledge not only still is, but must long remain very incomplete unless collectors may be induced to interest themselves in the group more than they have done in the past. In the set before me, as has nearly always been the case heretofore, one or the other of the two sex-forms is too often missing. A long study of the family, and especially of the genus *Dioscorea*, has convinced the writer that the staminate flower characters alone, constant and pronounced as they are for the determination of specific limits, can never be of much generic value in rescuing the group from its present unsatisfactory condition. The key to the problem will therefore only be found after we have acquired a better knowledge of pistillate forms. It is earnestly to be desired that this phase of the Dioscorea problem be attacked by the only persons who are capable of doing so, *i. e.*, by intelligent field workers. Nothing more is necessary than the simple recognition of the fact that Dioscoreas are diœcious, in order that the discovery of a plant in any locality may thereby stimulate the collector to a search in the immediate neighborhood for the opposite sex-form. In this way alone will it ever be possible to bring together requisite material for a complete and satisfactory study.

The most recent publication on the family is in Engler & Prantl Pflanzenfamilien, Nachtrage zu II. 5, pp. 80—89, where the writer has presented a detailed synopsis of sections in the genus *Dioscorea*, preliminary to a monograph of the family, which has unfortunately not yet passed the MS. stage.

HIGINBOTHAMIA* Uline, n. gen. Ovarium capsulaque *Dioscoreæ*, ovulis quaternis, seminibus in quolibet loculo ternis quaternisve. Cotyledon obscuro repando-marginata. Ex habitu totæ plantæ et characteribus florum staminatorum a *Dioscorea* non præcipue differt.

The presence of three and sometimes four fully ripe seeds in each cell of the capsule must at once entitle the plant in question to a special degree of consideration as a form at once distinct, not only from all Dioscoreas, but from the entire sub-order of *Dioscoreæ*, as set apart by Pax in the Pflanzenfamilien II, 5, 133. So far as I have been able to discover after a three years study of the family, during which time all the larger collections of European and American herbaria have been examined, not a single specimen has hitherto come to light presenting this character. It seems probable, therefore, that we are dealing, not with some spasmodic or abnormal condition, but with a deep-seated character, which may, as the group becomes better known, be of no little value in the determination of generic lines. Like most other members of the sub-order *Dioscoreæ*, the general habit cuts no figure; for without fruit or flower it could not readily be distinguished from a score of others. The staminate flowers are easily distinguished from all Mexican *Dioscoreæ* by the stamen column. Members of the section *Monadelpha* Uline, of the genus *Dioscorea*, occurring in southern Brazil, Paraguay, Argentina and Bolivia, are variously inclined to coalescent filaments, but their seeds are of the *Helmia* type, *i. e.*, winged only in one direction, instead of all around. Although the coalescence of the *Monadelpha* section is characteristically different from that of our plant, it does not follow that the character of filament coalescence may in the above-described plant be interpreted as a generic character. For throughout the genus *Dioscorea*, species showing closest relationship in the character of the female flowers were found often to differ widely in their staminate flowers. Hence it is not improbable that a second species displaying 12 ovules in the capsule, should such ever be found, might display an entirely different set of characters in its male form from that below described. Furthermore, there are certain characters in our plant, which, while not found in any known *Dioscorea* species, nevertheless do not differ more widely from known Dioscoreas than numerous sections of the genus *Dioscorea* differ among one another. Such characters are: the presence of staminodia carried up to the apex of the column with the anthers (members of the section *Monadelpha* having no staminodia); the very long rachides of the pistillate flowers (often over 2 feet); and the very minute embryo with the obscure plumule at the base. (This plumular structure required hours of manipulation to discover, while in other members of the family it is always easily seen under $\frac{2}{5}$ to $\frac{1}{4}$ objective comp. micr.). In view of these conditions the writer is therefore compelled to present the genus tentatively, offering the 4-ovuled feature as the only positive generic character. To what extent certain of the above-mentioned characters may be ultimately found to be generic or specific, must remain an open question until more is known about generic relations in the group.

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* Harlow N. Higinbotham, Esq., whose interest in the development of botanical research has given a strong impetus toward proper equipment for a representative and critical herbarium in the Botanical Department of the Field Columbian Museum.

Higinbothamia synandra Uline, n. sp. (Plate XXII.)

Planta glabra, scandens, caulibus crassis, sinistrorsum tortis; foliis membranaceis, 7-nerviis, orbiculari-cordatis, subtus ad basin glandulis sparsis adspersis; racemis solitariis, gracillimis, folia superantibus; floribus solitariis brevipedicellatis, ad racemos laxiter dispositis; antheris tribus sordido-purpuriis, ad apicin columnæ andrœcialis gracilis extrorsum insertis, et cum tribus rudimentis similiter sitis perbrevibus simplicibus obtusis crassiusculis albis obsolete papillosis alter-

nantibus; rudimento stylino nullo; spicis longissimis flexuosisque, ovario glabro; staminibus sterilibus tribus, minutis; columna stylina crassa, lobis perianthii dimidio breviori, apice non ramoso, sed in lobos trias expanso, lobis crassis, divaricatis, versus marginos rotundatos subito reflexis, versus axem stylinum valde conduplicatis; seminibus 3—4 in quoque loculo, undique (sed facie interiori anguste) alatis.

Caulis 1.5—2 mm. in diametro. *Folia* tenuiter membranacea, 4—6.5 cm. lata, cordata. *Petioli* 2 cm. longi. *Racemi* 1.5 dm. longi. *Pedicelli* graciles, 1.5—2 mm. longi, 4—10 mm. distantes. *Perianthium* rotato-campanulatum, circiter 4 mm. latum, lobis ovatis obtusisque. *Columna androecialis* brevis, lobis perianthii ad maximum dimidio brevior. Antheræ oblongæ, fusco-purpureæ. Spicæ pistillatæ sæpe plus quam 6 dm. longæ. *Flores* 1.5—2 cm. distantes. *Ovarium* gracile, apice attenuatum (flores stipitati). *Capsula* oblonga, 1.5 cm. lata, 2.3 cm. longa. Semina valde compressa, usque ad 4—5 mm. longa lataque.

Yucatan, GAUMER, 794, type in Herb. Field Col. Mus. cat. no. 36597, staminate form; 928, type in Herb. Field Col. Mus. cat. no. 37276, pistillate form. Referred in Field Col. Mus. Bot. 1: 357 to *D. macrostachya*.

Dioscorea Yucatanensis Uline, n. sp.

Planta gracillima glabra sinistrorsum volubilis caulibus filiformibus, foliis parvis, proximatis, cordatis, brevipetiolatis; spicis staminatis solitariis, folium multo superantibus, floribus minutis, sessilibus, subsolitariis perianthii lobis membranaceis, *oblongis;* staminibus tribus brevibus subcentralibus, cum tribus rudimentis brevioribus spatulatis alternantibus; antheris introrsis, minutis; rudimento stylino nullo; spicis pistillatis paucifloris, demum foliis duplo longioribus; staminibus sterilibus tribus, cum tribus minutissimis alternantibus; columna stylina brevi, ramis gracilibus, teretibus, decurvatis.

Caulis in plantis siccis 0.5 mm. diametro. *Folia* 3—4 cm. distantia, membranacea, orbiculari-cordata, 7-nervia. Petiolum 1—5 cm. longum. *Flores* staminati sordido-purpurei, marginibus viridibus, usque ad rachidis basin irregulariter et proximate inserti. *Perianthium* 1.5 mm. latum. *Stamina* erecto-divergentia, brevia, perianthii tubum vix superantia. *Spica* pistillata brevis, 7–10-flora. *Ovarium* breve, glaber. *Capsula* (immatura) 5 mm. longa.

Yucatan, GAUMER, 927, *ex parte*, staminate form; type in Field Col. Mus. Herb. cat. no. 37275; 1120, *ex parte*, pistillate form; type in Field Col. Mus. Herb. cat. no. 38477.

The general appearance of this plant, the disposition of its minute sessile flowers on the rachis, and especially the presence of minute spatulate rudimentary stamens, alternating with the short extrorse fertile stamens, all point unmistakably to a real relationship to *D. polygonoides* H. & B.; but it is at once distinguished in general by its delicate slender habit. It probably does not attain a length of more than 4 or 5 feet, for it was found growing on Capraria biflora, not spreading from plant to plant, but attaining its growth largely on a single individual. The staminate plant is readily distinguished from *D. polygonoides* by solitary flowers. The latter species always has its staminate flowers more or less densely bunched at irregular distances on the rachis. It will be seen also that the anthers are not discrete as in *D. polygonoides,* but irregularly introrse. The oblong perianth-lobe, in contrast to the usually orbicular form present in *D. polygonoides,* also serves to confirm the distinctness of the species. Though no mature capsules have been seen, yet the short few-flowered rachides of the pistillate specimen, and its short ovaries, some of them already as broad as long, suggest a very different plant from *D. polygonoides,* with its long rigid rachis and large capsules.

Dioscorea Matagalpensis Uline in Engl. Jahrb. xxii, 3: 432.

Forma staminata nova: Facies ut in planta supra citata, in sicco nigrescens, floribus in glomerulos 3—4 floros inæquidistantes dispositis; perianthii lobis ovato-oblongis, obtusis, æqualibus; staminibus fertilibus tribus cum tribus sterilibus spatulatis inæqualiter bidentatis obscuro papillatis alternantibus omnibus in tubo supra basin insertis; antheris parvis, surso-extrorsis, loculis vix discretis; rudimento stylino nullo.

Caulis gracillimus, sinistrorsum volubilis. *Folia* usque ad 3 cm. longa lataque. *Spicæ* 10 cm. longæ, simplices vel ramosiusculæ. *Perianthium* 1.5 mm. latum, segmentis basi nunquam auriculatis. *Stamina* fertilia brevia, segmentis perianthii fere dimidio breviora, sterilia paullo superantia.

Yucatan, GAUMER, 1391, staminate form. Specimen in Field Col. Mus. Herb. cat. no. 57320.

From the entire appearance of the plant and, as was to be expected, the presence of staminodia alternating with the fertile stamens, there can be no doubt that this is the hitherto unknown male form of *D. Matagalpensis.* Its discovery is especially fortunate, for it is now possible to determine the affinities of *D.*

Matagalpensis,—otherwise impossible from pistillate characters alone. It is found to fall very near to *D. polygonoides* H. & B., and its related forms, but differing essentially in its oblong perianth lobes, which are not at all auriculate, as is always true of *D. polygonoides*, in the entire absence of style rudiment, and in the attingent (not discrete) loculæ of the anthers. Furthermore, the plant is in every way smaller, with much smaller leaves, slenderer stem, and shorter spikes.

AMARANTHACEÆ.

During the last decade many new forms of this family have been described from Mexico, Central America and the West Indies, these being chiefly Iresines from Mexico and Central America, and Alternantheræ *resp.* Telantheræ from the West Indies. However, a careful study of the specimens in the herbarium at Field Columbian Museum reveals the fact that several forms have nevertheless been overlooked. Owing to the great confusion existing so generally throughout the group, it is with no little hesitation that I undertake to add to the already long list of known and little known species; yet there are certain facts, as will be seen below, pertaining to the relationships of the plants in hand, which seem to sufficiently justify publication.

Alternanthera Morongii Uline, n. sp.

Planta prostrata caulibus herbaceis, radicantibus, ramosissimis, ad articulos plus minus lanatis; foliis glabris longiuscule petiolatis, obovatis vel oblanceolatis, apice rotundatis, leviter mucronatis; capitulis sessilibus, solitariis vel 2—3-ternis, ovato-oblongis vel globosis; floribus minutis, glabris, sepalis membranaceis, hyalinis exterioribus obscuro trinerviis; cupula brevissima, staminodiis subintegris, quam filamentis multo brevioribus; ovario globoso-compresso, stylo subnullo.

Caules crassi, usque 1.5 mm., ad nodos sæpe radiculiferi, superne pilosiusculi, pube simplici, inferne glabrescentes, in axillis lanati, internodiis brevibus (1—2.5 cm.). *Folia* opposita utrinque glabra, alterum sterile alterum fertile, 1—2 cm. longa, basi in petiolum attenuata. *Capitula* 4 mm. diametro, densiflora; rachis inter flores subglabra; bracteæ oblongæ, apice acutæ (nec aristatæ), 1 mm. longæ, glabræ. *Flores* dorso convexi, ventre plani. *Sepala* exteriora ovato-oblonga, acuta, interiora augustiora, lateralia plicato-concava, omnia glaberrima, æquilonga (2 mm.). *Staminodia* acuminata, simplicia vel in lacinias 2 dissecta. *Filamenta* capillacea, staminodiis 4—5-plo longiora.

Central Paraguay, MORONG, 40. Distributed from Herbarium Columbia University as *Alternanthera Achyrantha* [*A. repens* (L) Kuntze]. Type in Field Col. Mus. Herb. cat. nos. 18150, 18151.

The nearest affinities of this plant are at once found in the widely distributed *A. paronychiodes*, which it resembles very closely in its dense prostrate habit, wool in the axils of the small oblanceolate leaves, small white heads, and in its stamineal tube characters. The heads are smaller and more densely flowered, and the flowers are much smaller and *glabrous*, there being no hairiness whatever within the inflorescence; though the heads, like *A. paronychiodes*, are more or less enveloped at the base by white simple, wooly pubescence. The stamineal cup is smaller, filaments longer and decidedly slenderer, and the seed little more than half the size of that of *A. paronychiodes*.

Alternanthera (TELANTHERA) **asterotricha** Uline, n. sp. (Pl. XXIII.)

Procumbens caulibus crassis subgeniculatis, ad nodos radiculas sæpe gerentibus, versus apicin adcendentibus, superne pube densissima grisea vestitis, pilis basi irregulariter ramosis; foliis ovali-ellipticis, basi in petiolum gradatim contractis, apice rotundatis, mucronulatis, supra laxius subtus densius pilosis, pilis ramosis, capitulis minutis, in axillis foliorum juniorum sitis; bracteis acuminatis, sepalis paullo brevioribus, sepalis exterioribus trinerviis, lateralibus plicatis, omnibus dense patenti-pilosis, pilis spinuligeris, staminodiis filamentis æquantibus, apice in lacinias 5 dissectis, ovario globoso-obconico, stylo brevi.

Caules crassi (2—2.5 mm.), internodiis 5—10 cm. longis. *Folia* usque ad 6 cm. longa, breviter petiolata. *Pubis* plantæ totæ ramosa, ramis simplicibus, setiformibus vel longiusculis, ramosis et divaricatis, haud verticillatis. *Flores* 2.5 mm. longi, 2 mm. lati, sepalis exterioribus valde nervatis, interioribus plicatis, carinatis, omnibus breviter aristatis, dorso pilosis, pube spinulifera. *Tubus staminealis* (¼ alt. filamentorum), filamentis staminodiisque ovarium et stylum æquantibus.

Yucatan, GAUMER, 1303. Type in Field Col. Mus. Herb. cat. no. 57232.

The singular pubescence of this plant gives to it its most prominent specific character. The hairs of the sepals are simple with short spinulous processes standing out on the sides. Those of the leaves and stems, on the other hand, are branched at the base, the branches again often subdividing. The main axis of the hair, which is spinuliferous like those of the inflorescence, seems to rise from a basal cluster or network of irregularly disposed branches, while these branches in turn become spinuliferous. Dr. Urban,* who recently described four new species of *Telanthera* (*Alternanthera*), three of which seem from the description to be very near the above plant, does not mention any other than simple pubescence on the leaves, though in describing the stem-pubescence of *T. Sintenisii* he says "pube inferne *verticillatim* ramulosa et præterea minute spinuligera." But our plant comes from a very different region biologically, and reveals characters which clearly justify specific separation. The leaves of the above plant are very much larger than in *T. Sintenisii*, and are oval (not rotund), the latter being only 1.5—2 cm. long and wide; the branches of the hairs are never verticillate, but always irregular, both in size and position.

Alternanthera Culebrasensis Uline, n. sp.

Prostrata caulibus gracilibus, radicantibus, præcipue superne pube densa appressa vestitis; foliis rotundatis breviter pedecellatis, supra (nisi junioribus) glaberrimis, subtus densius pilosis, pilis caulium foliórumque verticillatim ramulosis; capitulis ovatis, desifloris sessilibus, solitariis vel binis; sepalis dorso pilosis, pilis setigeris,. exterioribus trinerviis, interioribus plicato-carinatis, omnibus brevissime aristatis quam bracteis 2-plo longioribus; staminodiis filamenta fertilia æquantibus, usque 5-laciniatis, filamentis in ½ altitudine coalescentibus.

Caules vix 1 mm. diametro, internodiis 3–6 cm. longis. *Folia* 1.5—2.5 cm. longa lataque, basi sæpe inæquilatera, membranacea, in sicco læte virida, in axillis cristas lanosas gerentia. *Capitula* 4—6 mm. longa. *Flores* 3 mm. longi, 2 mm. lati. *Antherarum thecæ* lineari-lanceolatæ.

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*Symbolæ Antillanæ, Vol. I, p. 301.

Contrary to the common acceptation of the present limits of the genus *Alternanthera*, which is made by Bentham, Grisebach, Schinz, Kuntze and others to include *Telanthera excl. Lithophila*, and *Mogiphanes*, Dr. Urban has published his new species under the old *Telanthera*. However, the merging of these two genera seems in the opinion of the writer to be justifiable on the ground that it is impossible to lay hold of any pervading character that can logically separate them. Both have simple capitate stigmas, stamens coalescent, and a tube with flat, simple or dentate to laciniate staminodia of varying lengths. On account of this latter character, the old division, based as it was on relative length of stamineal tube and staminodia, falls away. The writer prefers to relegate the transfer of Dr. Urban's species to the hands of the ever active botanical nomenclator.

Culebras Island, south shores, MILLSPAUGH, Pl. Utowanæ, Armour Exped. no. 607. Type in Field Col. Mus. Herb. cat. no. 60607.

Nearer *A.* (*Telanthera*) *Sintenisii* Urban *l. c.* than the preceding, but the pubescence on the leaf of the latter is described as "supra laxius subtus densius pilosis," upon which rests the chief difference of the above species. It may prove to be only a variety—a question which only a comparison of the two plants can decide.

Alternanthera Lorentzii, Uline, n. sp.

(*A. Achyrantha* Moq.? *l. c.* 358, *non* R. Br.)

Prostrata caulibus crassis, ad nodos radiculas gerentibus, glabris (nisi junioribus parce pilosis); foliis crassis, glabris rotundatis vel obovatis, apice rotundatis mucronulatis; capitulis spinosis majusculis, 2—5-nis in axillis foliorum, bracteis acuminatissimis, sepalum interiore æquantibus, sepalis exteroribus 2 divergentibus, longissime aristatis, lateralia interioreque multo superantibus; tubo stamineali brevissimo, staminodiis perbrevibus 2–3-dentatis, filamentis fertilibus, gracilibus, staminodia multo superantibus.

Caules 2—2.5 mm. diametro, internodiis 2—6 cm. longis. *Folia* 1.5—2.5 cm. longa, breviter petiolata. *Capitula* ovata, usque 1 cm. longa. *Sepala* 2 exteriora longissime aristata, glabra, 5 mm. longa demum devaricata; interiore lanceolato-acuminatum, 3 mm. longum, glabrum; lateralia 2 minora 2.5 mm. longa, angustiora, valde plicato-carinata, dorso pilosa, pilis glochidiatis barbatisque.

Uruguay, Concepcion del Uruguay, LORENTZ in 1878. Type in Field Col. Mus. Herb. cat. no. 54626.

The question arises as to what is really known about R. Brown's *A. Achyrantha.* If the evidence of scores of herbaria is good, it is quite safe to accept those Alternantheras having short simple staminodia equaling the filaments, so generally distributed over North and South America from South Carolina to Brazil, as the correct interpretation. But this comparatively well-known plant differs radically from the above-described Lorentz plant, as follows: leaves and head smaller, sepals all more or less provided with the glochidiate barbed hairs above described, but the two dorsal exterior ones not conspicuously aristate; staminodia simple, very short, equaling the filaments. Since Moquin-Tandon seems to have mixed the description of a similar plant to the above in his description of *A. Achyrantha*, I have referred it here with question.

Iresine Hartmanii Uline, n. sp. (Plate XXIV.)

Erecta suffruticosa, caulibus ramosis, superne lanato-puberulis, inferne glabris; foliis oppositis (inferne alternis), oblongo-lanceolatis, apice acuminatis, basi acutis, supra obsolete puberulis vel glabrescentibus, subtus densius griseo-pilosis, paniculis laxis; floribus in spicas densas crassas dispositis, quibus alternis in paniculis ad ramos secundas tertiasque sitis; fl. staminatis lanosis, antheris oblongis, staminodiis subnullis.

Caules robusti, suffruticosi. *Folia* usque ad 8 cm. longa, 2 cm. lata. *Petiolum* 5—10 mm. longum. *Rami* panicularum late divergentes, inferne oppositi, superne alterni, ramulis alternis. *Spicæ* usque ad 8 mm. longæ, 3.5 mm. diametro, albido-lanatæ, terminalibus pedunculatis, lateralibus plerumque sessilibus. *Ovarium* rudimentum depressum, stylo nullo, stigmatibus 2. *Staminodia* fere obsoleta.

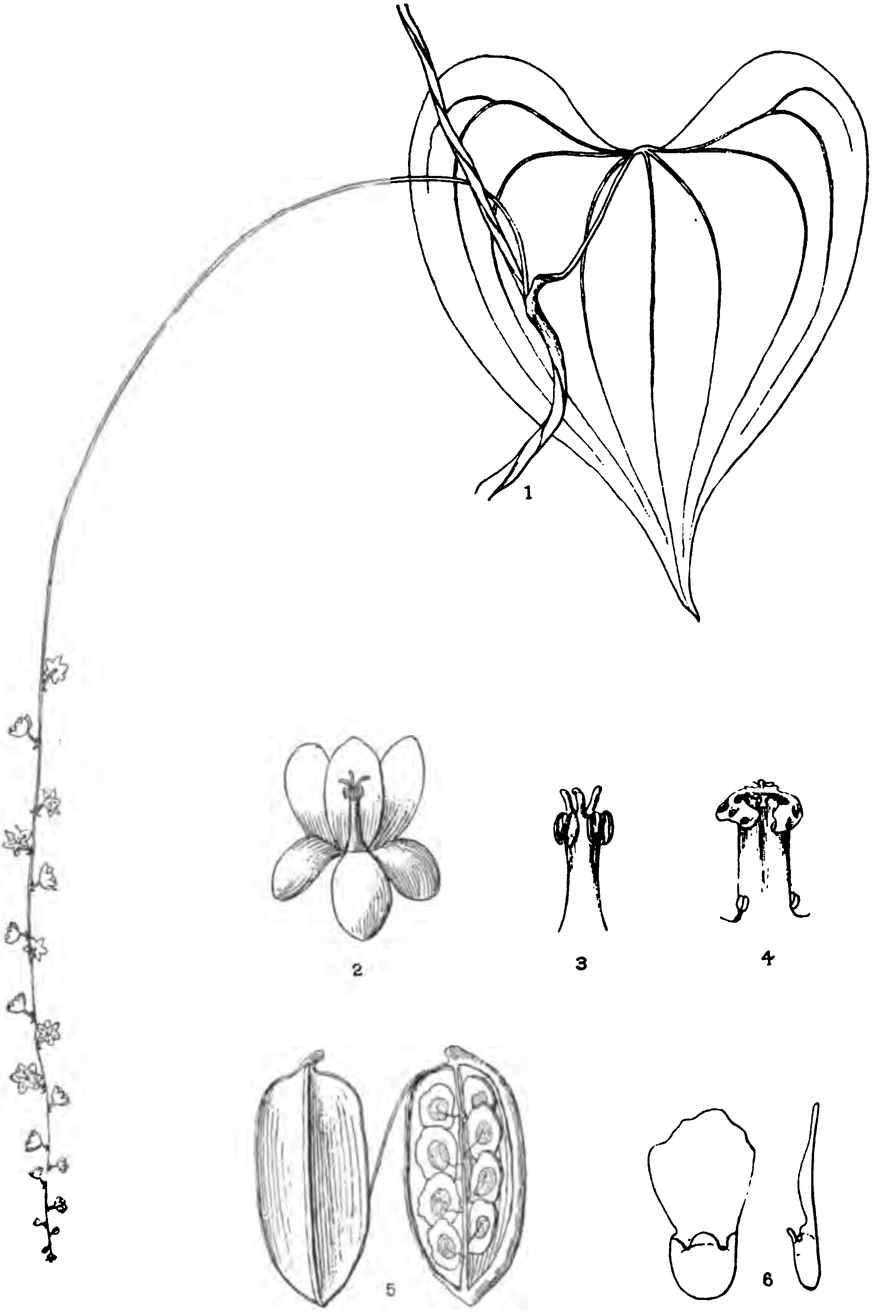
Sonora, Mex., Granados, alt. 3,000 ft., in 1890. HARTMAN, 232, staminate form. Type in Field Col. Mus. Herb. cat. no. 49593.

Distributed as *Iresine Schaffneri*, but clearly distinct in habit and in the absence of staminodia. In general appearance it suggests *Dicraurus leptocladus*, and the fact of some of the lower leaves of the branches being alternate seems to confirm the relationship; but the species of *Dicraurus* have papillate staminodia. The rudimentary ovary is so large that the plant was first taken to be hermaphrodite, but in no case could I find even the beginnings of seed ripening, though many of the flowers were past the stage of anthesis. I conclude, therefore, that the functional pistillate form has yet to be found, this specimen being the staminate form, and constituting a reduction from an earlier hermaphrodite condition—a state of things well known in numerous other members of the genus. Its shrubbiness, pubescence, dense spicules and much reduced staminodium serve to easily distinguish it.

PL. XXII. HIGINBOTHAMIA SYNANDRA ULINE.

1. Habit, showing part of stem and one leaf with its staminate raceme.
2. Staminate flower, enlarged, with three sepals turned down.
3. Andrœcial column, anthers and alternating staminodia.
4. Style and stigmatic surfaces, effete anthers at base.
5. Fruit, natural size, showing contents of two cells.
6. Embryo, anterior and lateral views, magnified.

(See page 415.)

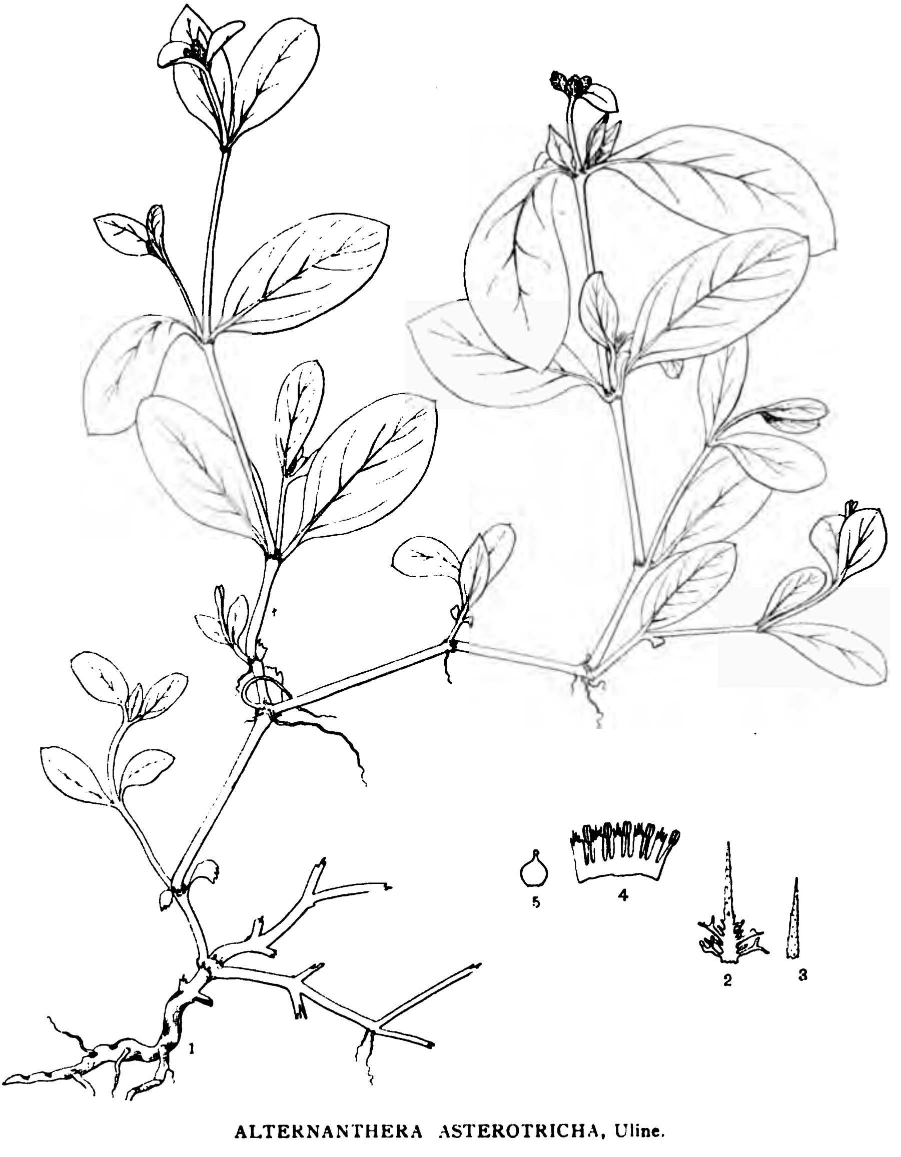


HIGINBOTHAMIA SYNANDRA, Uline.

PL. XXIII. ALTERNANTHERA ASTEROTRICHA ULINE.

1. Portion of plant showing habit. (Pubescence not indicated in the drawing.)
2. Single hair taken from leaf.
3. Same taken from sepal.
4. Andrœcial tube laid open, showing stamens and staminodia.
5. Ovary.

(See page 419.)

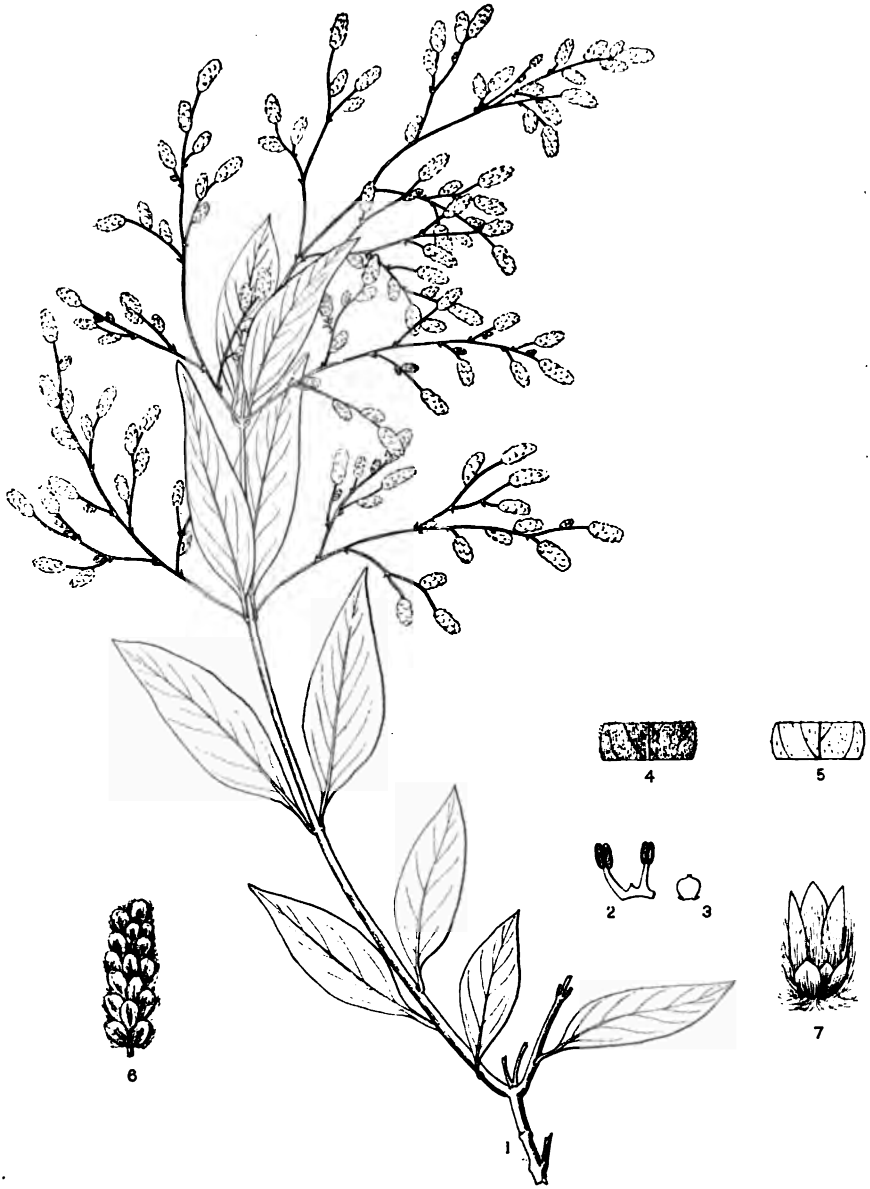


ALTERNANTHERA ASTEROTRICHA, Uline.

PL. XXIV. IRESINE HARTMANII ULINE.

1. Portion of plant showing habit; remnants of flower-bearing branches at the forking.
2. Portion of andrœcial tube showing stamen and minute staminodium.
3. Rudimentary ovary.
4, 5. Under and upper surface of leaf indicating relative pubescence.
6. Head, enlarged, showing arrangement of flowers.
7. Individual flower, much enlarged.

(See page 422.)



IRESINE HARTMANII, Uline.

FIELD COLUMBIAN MUSEUM

PUBLICATION 48.

BOTANICAL SERIES. VOL. I, NO. 6.

PLANTÆ INSULÆ ANANASENSIS

A CATALOGUE OF PLANTS COLLECTED ON THE ISLE OF PINES, CUBA, BY DON JOSÉ BLAIN.

BY

CHARLES FREDERICK MILLSPAUGH, M. D.,
Curator, Department of Botany.

CHICAGO, U. S. A.
August, 1900.

PLANTÆ INSULÆ ANANASENSIS.

CHARLES FREDERICK MILLSPAUGH, M.D.

This museum lately came into possession of a set of plants collected by Don José Blain, on the northern portion of the Isle of Pines, Cuba, and sent by him to Sr. Sauvalle, who communicated them to Mr. Charles Wright, from the remains of whose herbarium they were obtained.

This collection proves to be a particularly interesting one, not only on account of the few common forms of the island included in its 185 numbers, but also because of the scarcity of plants from that region in herbaria. For these reasons they are considered worthy of publication as a whole.

Many of the sheets bear determinative remarks by either Sauvalle or Wright, and a few the insular vulgar name, and month of flowering; but on none of them is the year of collection, which must, however, have been some time in the middle 60's.

With the exception of a few small plants, the specimens are chiefly flowering tips, and do not exist in duplicate to any extent; while a few of the numbers are too scrappy to be determinable with certainty; these latter are not included in the following list:

CATALOGUE.

PINACEÆ.

Pinus Cubensis Griseb. Mem. Am. Acad., 1863, 530.
(96, 108). "The cones of this species never open.—Blain."

CYPERACEÆ.

Kyllingia brevifolia Rottb. Desc. et Ic., 13.
(168).

Heleocharis interstincta (Vahl.) R. Br. Prod., 224.
(113). *Cyperus* Vahl.

Rynchospora scutellata Griseb. Cat. Pl. Cub., 246.
(43). "Cortadera."

PALMACEÆ.

Sabal Blackbournianum Glaz. Loud. Gard. Mag., 1829, 52.
(75, 94). "Guam de Caña Legitimo."

Geonoma Swartzii Griseb. & Wendl. Cat. Pl. Cub., 222.
(170). *Elæis occidentalis* Sw. *Calyptronoma* Griseb. Pl. Br. W. I., 518.

RESTIONACEÆ.

Paepalanthus androsaeus Griseb. Cat. Pl. Cub., 225.
(151). May.

LILIACEÆ.

Similax Havanensis Jacq. Enum., 33.
(39, 95). "Zarzuela."

HAEMODORACEÆ.

Xiphidium floribundum Sw. Prod. Veg. Ind. Occ., 17.
(45). "In Cuba this species grows only in shady situations in glens, never on the open savannas; here, however, it seeks the open plains far from shade.—Blain."

AMARYLLIDACEÆ.

Crinum erubescens Soland. Ait. Hort. Kew., 1:143.
(46).

Hypoxis juncea Sm. Spicil., 15.
(33). June.

Hypoxis scorzonerifolia Lam. Encyc., 3:183.
(34). May.

DIOSCOREACEÆ.

Dioscorea trifida L. f. Supp., 427.
(98). "Couche Couche."

IRIDACEÆ.

Sisyrinchium sp.
(48). June. "Flowers blue."

ZINGIBERACEÆ.

Zingiber officinale Rosc. Trans. Linn. Soc., 8:348.
(105). "Ajenjibre."

ORCHIDACEÆ.

Vanilla anaromatica Griseb. Fl. Br. W. I., 638.
(123). "Bejuco Caballero."

Epidendron pallidiflorum Hook. Bot. Mag., t. 2980.
(82, 122).

PIPERACEÆ.

Piper tuberculatum Jacq. Ic. Pl. Rar., 2:2.
(17, 20, 40, 181). May to June.

POLYGONACEÆ.

Polygonum glabrum Willd. Sp. 2:447.
(109.)

Coccoloba retusa Griseb. Cat. Pl. Cub., 61.
(185). August. "Manati."

AMARANTACEÆ.

Lithophila vermiculata (L.) Uline. Field Col. Mus. Bot., 2:39.
(76). June. "Peregil de Costa."

NYCTAGINACEÆ.

Pisonia rotundata Griseb. Cat. Pl. Cub., 283.
(8).

MENISPERMACEÆ.

Cissampelos Pareira Linn. Sp. Pl., 1031.
(52). June.

LAURACEÆ.

Nectandra patens (Sw.) Griseb. Fl. Br. W. I., 231.
(90). Santa Fé, June. "Moniato."

Nectandra exaltata Griseb. Cat. Pl. Cub., 111.
(116). "Boniatillo." "Rangel." February.

CAPPARIDACEÆ.

Cleome procumbens Jacq. Enum. Pl. Carib., 261.
(49).

ROSACEÆ.

Hirtella mollicoma H. B. K. Nov. Gen. et Sp., 7:263.
(25). "Teta de Jagua." "Icaco Peludo." "Icaco de Aura."

LEGUMINOSACEÆ.

Acacia Vincentis (Bth.) Griseb. Fl. Br. W. I., 222.
(120). April.

Indigofera pascuorum Bth. Ann. Nat. Hist., 1839, 431.
(23).

Brya Ebenus (L.) de C. Prod., 2:421.
(135). "Ebeno."

Aeschynomene tenuis Griseb. Cat. Pl. Cub., 72.
(24). June.

Zornia diphylla Pers. Syn., 318.
(101). November.

Meibomia scorpiurus (Sw.) Kuntze. Rev. Gen., 198.
(77).

Piscidia erythrina Linn. Syst. ed. x, 1155.
(159). May. "Guama Hediondo."

Clitoria glomerata Griseb. Cat. Pl. Cub., 62.

Clitoria cajanifolia Bth. Mart. Fl. Braz., 15, 1:121.
(29). June. "Papo de la Reina.'

Canavalia Cubensis Griseb. Mem. Am. Acad., 1861, 178.
(97). December. "Maté."

Galactia angustifolia retusa Wright, Griseb. Cat. Pl. Cub., 75.
(61).

Galactia filiformis Cubensis (Kth.) Griseb. Cat. Pl. Cub., 75.
(92).

Eriosema crinitum G. Don. Gen. Syst., 2:348.
(47). July.

OXALIDACEÆ.

Oxalis frutescens Linn. Sp. Pl., 435.
(27, 139). May. Flowering peduncles twice exceeding the leaf.

ERYTHROXYLACEÆ.

Erythroxylum alaternifolium A. Rich. Ess. Fl. Cub., 256.
(55, 155, 165). May to July. "Arabillo."

ZYGOPHYLLACEÆ.

Guaicum sanctum Linn. Sp. Pl., 382.
(124).

BURSERACEÆ.

Protium heptaphyllum (Aubl.) March, Kjoeb. Vid. Med., 1873, 55.
(7, 35, 161). May. "Copal."

MALPIGHIACEÆ.

Malpighia coccigera Linn. Sp. Pl., ed. 2:426.
(36). May and June. "Palo Bronco de Pinares."

Malpighia urens Linn. ibid.
(37). June.

Malpighia setosa Spr. Neue. Entdeck., 3:50.
(144). "Palo Bronco."

Byrsonima verbascifolia Rich. An. Mus. Par., 1811, 481.
(134, 141, 172). May. "Paralejo blanco del Pinar."

Byrsonima Cubensis Juss. Arch. Mus. Par., 1843, 292.
(136). May to June.

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POLYGALACEÆ.

Polygala unciata (Wright Mss.) sp. nov.

Glabrous. Rameal leaves minute. Flowers rosaceous; lower sepals narrowly oblong, shorter than the broadly elliptic upper one; wings obovate, twice as long as the obovate-oblong, scarcely emarginate capsule. Seeds suspended by a slender funiculus, obovate-elliptic, blackish, covered with spreading stiffish hairs uncinate at the apex and nearly equaling the short diameter of the seed.

Stems slender, terete, 35-40 cm. long; branches filiform 10-20 cm. long; leaves 1-1.5 mm. long. Near P. glochidiata H. B. K.
(16, 160). June.

EUPHORBIACEÆ.

Croton reptans Sw. Prod. Veg. Ind. Occ., 99.
(62). June.

Croton crasspedotrichus Griseb. Goet. Nach., 1865, 173.
(63).

Croton cerinus Müll. deC. Prod. 15, 2:570.
(64). June.

Croton lobatus Linn. Sp. Pl., 1005.
(81).

Croton bispinosus Wright, Sauv. Fl. Cub., 128.
(117, 178).

Croton discolor Willd. Sp., 4:582.
(133). May.

Phyllanthus cyclanthera Baill. Adansonia, 1:31.
(107).

Phyllanthus diffusus Kl. Seem. Bot. Voy. Her., 105.
(174).

Pera oppositifolia Griseb. Goett. Nachr., 1865, 181.
(53).

Jatropha multifida Linn. Sp. Pl., 1006.
(106). "Chayo Coral."

Sebastiania corniculata (Baill.) Müll. deC. Prod., 15, 2:1168.
(111).

AQUIFOLIACEÆ.

Ilex montana Griseb. Mem. Am. Acad., 1861, 171.
(152). June and July.

HIPPOCRATEACEÆ.

Salacia Blainii sp. nov.

Shrubby, branches virgate, puberulous at the tips. Leaves petiolate, glabrous, finely and prominently venulate, whitish beneath, obovate, acute, narrowed at the base or somewhat rounded, shallowly crenate-dentate, the teeth glandular. Inflorescence in axillary, long peduncled trichotomous cymes about two-thirds the length of the leaves; calyx lobes ovate-deltoid, ciliate on the margin, about one-fourth the length of the ligulate, acute, pulverent petals; stamens 3, attached to the summit of the receptacle near the base of the style; filaments ligulate, curved, anther oval, the cells confluent, transversely dehiscent. Disk large, conical, crenate below; ovary 3-celled, imbedded in the apex of the disk, cells 4-ovuled; style long, stigma capitate, 3-lobed. Fruit unknown.

Leaves 5-7.5 x 2.5-3 cm., petioles 6-8 mm., internodes about 4 cm. (176).

STAPHYLEACEÆ.

Huertea Cubensis Griseb. Cat. Fl. Cub., 66.
(115, 169). "Rangel."

TILIACEÆ.

Belotia grewiaefolia A. Rich. Ess. Fl. Cub., 209.
(175).

MALVACEÆ.

Sida hederaefolia Cav. Diss., 1:8.
(41).

Sida cordifolia Linn. Sp. Pl., 684.
(102). November.

Pavonia racemosa Sw. Fl. Ind. Occ., 2:1215.
(87). June. "Majaquillo de Corte."

STERCULIACEÆ.

Melochia hirsuta Cav. Diss., 6:323.
(14). June.

THEACEÆ.

Haemocharis Curtyana (Rich.) comb. nov.
(22). *Laplacea* Rich. Ess. Fl. Cub., 225. "Almendro."

GUTTIFERACEÆ.

Hypericum galioides Cubensis Griseb. Cat. Pl. Cub., 39.
(129, 150). May.

FLACOURTIACEÆ.

Flacourtia inermis Roxb. Hort. Beng., 73.
(121). "An introduced tree—Blain."

Samyda grandiflora Griseb. Cat. Pl. Cub., 11.
(112).

THYMELEACEÆ.

Lagetta lintearia Lam. Encyc., 3:376.
(158).

LYTHRACEÆ.

Cuphaea pseudomelanium Griseb. Cat. Pl. Cub., 104.
(65, 66).

COMBRETACEÆ.

Bucida Buceras Linn. Syst. ed. x:1025.
(130). May. "Jucaro Prieto."

Laguncularia racemosa Gaertn. Fruct., 3:209.
(80). June. "Pataban."

MYRTACEÆ.

Chytraculia punctata (Griseb.) comb. nov.
(148, 166). May. *Calyptranthes* Griseb. Mem. Am. Acad., 1861, 181.

Eugenia brevipes A. Rich. Ess. Fl. Cub., 584.
(54).

Eugenia dichotoma (Vahl.) de C. Prod., 3:378.
(114).

MELASTOMACEÆ.

Chaetolepis Cubensis (Wright) Tri. Trans. Linn. Soc., 1871, 51.
(67). June.

Chaetolepis saturaeioides Tri. Trans. Linn. Soc., 1871, 51.
(164). May and June.

Acisanthera quadrata Juss. Poir. Encyc. Supp., 1:111.
(70, 162). May and June.

Tetrazygia argyrophylla (Rich.) comb. nov.
(131). *Naudinia* Rich. Cub., t. 44.

Miconia prasina de C. Prod., 3:188.
(1, 2, 4, 5, 6, 127). May to June. "Cordovancillo."

Miconia Wrightii (Griseb.) Trian. Trans. Linn. Soc., 1841, 103.
(138, 140). May.

Miconia praecox Wright, Sauv. Fl. Cub., 47.
(167).

Miconia androsaemifolia Griseb. Cat. Pl. Cub., 100.
(171).

Pachyanthus Cubensis A. Rich. Ess. Fl. Cub., 1:560.
(68).

Clidemia spicata (Aubl.) de C. Prod., 3:159.
(69, 125). May and June.

Ossaea macrandra (Wright) comb. nov.
(73, 74, 91). June. *Sagraea* Wr. Sauv. Fl. Cub., 46.

Henriettella parviflora Trian. Trans. Linn. Soc., 1871, 144.
(3, 71). "Cordovan."

ARALIACEÆ.

Gilibertia cuneata March, Mart. Fl. Braz., 11, 1:250.
(21, 31, 149). May to June.

EBENACEÆ.

Maba Caribaea (de C.) Hiern. Tr. Camb. Phil. Soc., 1873, 125.
(128, 180). May. "Ebeno Carbonero."

Diospyros laurifolia A. Rich. Fl. Cub. Fan., 2:86.
(179). "Zapote Negro."

SYMPLOCACEÆ.

Symplocos salicifolia Griseb. Cat. Pl. Cub., 168.
(137).

Symplocos Martinicense Jacq. Enum. Pl. Carib., 24.
(157). May.

LOGANIACEÆ.

Spigelia Blainii sp. nov.

Glabrous. Erect from a subligneous rootstalk; stem tetragonal, sparingly branched or simple, nodes few. Leaves sessile, narrowly lanceolate, acuminate, scabrous on the revolute margin. Spikes terminal and axillary, ascending, 3-7-flowered; flowers sessile, corolla tube elongared-cylindrical, 6 times the length of the calyx; calyx lobes 5, ligulate, recurved at the apex. Corolla lobes ovate, acute. Fruit unknown.

Stems 5-15 cm.; upper internodes 4-5 cm.; spikes at length about 5 cm.; flowers 1 cm. distant. Leaves on the young plants 1-1.5 cm. x 1 mm., older leaves 2-3 cm. x 3-4 mm.

(51).

APOCYNACEÆ.

Cameraria retusa Griseb. Fl. Br. W. I., 410.
(145). "Illaba de los Pinares."

Echites paludosa Vahl, Ec. Am., 2:19.
(78). June. "Clavelitas de Sabana."

Echites umbellata Jacq. Pl. Carib., 13.
(88).

Forsteronia corymbosa Mey. Prim. Fl. Esseq., 134.
(93). "Curamaquey Prieto."

ASCLEPIADACEÆ.

Philibertia viminalis (Sw.) A. Gray, Proc. Am. Acad., 12:64.
(104). September and October.

Metastelma hamatum Griseb. Cat. Pl. Cub., 173.
(110).

Marsdenia umbellata Griseb. Cat. Pl. Cub., 178.
(118).

CONVOLVULACEÆ.

Ipomoea Batatas (Linn.) Poir. Lam. Encyc., 6:14.
(99). "Flor de Boniato."

Ipomoea argentifolia A. Rich. Fl. Cub., 2:131.
(100).

Ipomoea repanda Jacq. Enum. Pl. Carib., 13.
(132).

Evolvulus sericeus Sw. Prod. Veg. Ind. Occ., 55.
(10). June.

BORRAGINACEÆ.

Tournefortia volubilis Linn. Sp. Pl., 146.
(42).

Heliotropium Curassavicum Linn. Sp. Pl., 130.
(84). August.

Heliotropium reversiferum (Wright nom. herb.) sp. nov.

Suffrutescent; branches erect, aciculate-pilose throughout. Leaves narrowly lanceolate, subsessile or short petioled. Inflorescence a densely flowered, rarely 2-forked spike, strongly circinate at the apex, often twice or thrice reversed, as evidenced by the 2-3-curved fruiting portion. Corolla nearly as long as the calyx-lobes, smooth within. Anthers sessile, distinct, acuminate, inserted above the base of the corolla tube. Calyx lobes ovate-acute, unequal. Stigma phalloid, 4-lobed, with a ring of teeth at the apex and a secondary one of scale-like, thick hairs at the base; style slightly longer than the stigma. Fruit a conical cluster of 4 3-gonal nutlets, slightly aciculate-hairy at the base.

Stems ligneous, prostrate; branches slender, erect, terete, 17-26 cm., branchlets few. Leaves 1-1.5 x .2-.4 cm. Apparently near H. filiforme Kth.

At San Francisco, four leagues from Santa Fé, June.

(58, 85).

VERBENACEÆ.

Lantana involucrata Linn. Amoen. Acad., 4:319.

(142).

Lippia nodiflora (L.) Michx. Fl. Bor. Am., 2:15.

(79). June.

Petitia Poeppigii Schau. de C. Prod., 3:639.

(18). June. "Roble Guayo."

LABIATACEÆ.

Mesosphaerum actinocephalum (Griseb.) Ktze. Rev. Gen., 526.

(26).

SOLANACEÆ.

Physalis angulata Linn. Sp. Pl., 183.

(126). "Huevo Gallo." "A valuable anti-venereal.—Blain."

SCROPHULARIACEÆ.

Gerardia Domingensis Spr. Syst., 2:807.

(32). May and June.

BIGNONIACEÆ.

Tecoma lepidophylla Griseb. Mem. Am. Acad., 1862, 524.

(173). "Roble del Pinar." "Caimito Partido de las Pocas."

GESNERIACEÆ.

Conradia pumila Mart. Nov. Gen. et Sp., 348.

(50). June.

ACANTHACEÆ.

Stenadrium droseroides Nees de C. Prod., 11:284.

(11). June.

RUBIACEÆ.

Oldenlandia corymbosa Linn. Sp. Pl., 119.

(9). June.

Rondeletia correifolia Griseb. Cat. Pl. Cub., 129.

(153, 163). May.

Exostemma ellipticum Griseb. Pl. Wr. Cub., 504.

(12). "Vigueta Blanca." "Quina." "Piton." June. "Antifebrile.—Blain."

Cephalanthus occidentalis salicifolius (H. & B.) A. Gray, Fl. N. A., 1, 2:29.
(89). "Aroma de Laguna."

Guettarda calyptrata A. Rich. Fl. Cub., 2:21.
(147). May.

Machaonia cymosa Griseb. Fl. Br. W. I., 348.
(44).

Psychotria tubulosa A. Rich. Fl. Cub., 2:27.
(15, 28, 154, 183). May and June.

Faramea odoratissima de C. Prod., 4:496.
(19). June.

Morinda Roioc Linn. Sp. Pl., 176.
(146). May.

Spermacoce podocephala (de C.) A. Gray, Fl. N. A., 1, 2:34.
(56).

CUCURBITACEÆ.

Fevillea cordifolia Linn. Sp. Pl., 1013.
(119). "Flor Macho."

COMPOSITACEÆ.

Lachnorrhiza piloselloides A. Rich. Fl. Cub., 2:34.
(83). June.

Eupatorium foeniculaceum Willd. Sp. Pl., 3:1750.
(103).

Sachsia polycephala Griseb. Cat. Pl. Cub., 151.
(38).

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FLORA
OF THE
ISLAND OF ST. CROIX.

BY

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CHICAGO, U. S. A.
November, 1902.

FLORA OF THE ISLAND OF ST. CROIX.

CHARLES F. MILLSPAUGH, M.D.

St. Croix is the largest of the three principal islands of the group known as the Danish West Indies. It lies in latitude 17° 36′ N. and longitude 64° 36′ W., about 40 miles south by east from St. Thomas, from which it is separated by a depth of water varying from 1,100 to 2,450 fathoms. The island lies with its longest diameter of 21 miles nearly east and west, is about 5 miles wide at its broadest part, and has an area of about 57 square miles. Its width in the western half is nearly uniform. The northern and southern shores gradually approach each other toward the eastern end, where they meet in a rounded point, making the general outline of the island somewhat like the head of a mechanic's hammer. The north side is entirely hilly and broken, with but one well-defined valley—that of the Salt River. The south side is low and slopes gradually to the sea. The eastern end of the island is composed of hills 600 feet or more in height and is surrounded by an extensive shoal 5 to 8 fathoms deep. The northwestern end is also hilly, with an abrupt coast line nearly steep-to into a fathomage of from 600 to 800; while the southwestern point extends into a low sand spit with shallow water for some distance from the shore.

Like most of the West Indian Islands, St. Croix has an early history of strife and governmental vacillation, its possession in turn by the Caribs, Spain, England, France, Holland and Denmark giving rise to various local names for its towns and physical features. The two principal settlements are Fredericksted or West End, having a population in 1890 of 3,683, and Christiansted or Bassin, 15 miles to the east upon the north shore, with a population in 1890 of 5,499. Fredericksted is commercially the most active, since it is the principal stopping place of steamship lines and large vessels; while Christiansted, the capital city, though having a fine and protected harbor, is accessible to small vessels only. The population of the island is placed at 19,783 persons, of whom nine-tenths are black.

The climate of the island is very favorable for agriculture. The temperature is so uniform and high that there is never any hint of frost. Contrary to the statement of Baron Eggers,* Mr. Ricksecker states that the air is very humid, and heavy dews are so common that it was not considered safe to sit out of doors in the evening. Any article of iron left exposed, even for a short time, gathers rust rapidly. The average temperature is about 81° F., the range of monthly averages being from 78° F. (February) to 84° F. (September). The lowest and highest temperatures in the shade were 65° and 96° F., respectively, though in the sun it has been known to go so high as 124°. The effect of this heat is greatly modified by the trade winds which blow steadily from October to June; the rest of the year the winds are fitful and the heat becomes nearly unbearable. The rainfall is variably periodical; the yearly average for a number of years (1852–1889) was 46.22 inches; the lowest annual average was 29.6 inches, and the highest 67.6 inches. The monthly averages for the same period were as follows:

January, . . .	2.36 + inches.	July, ...	3.54 − inches.
February, . .	1.92 + "	August, . .	4.56 + "
March, . . .	1.72 + "	September, .	5.77 + "
April, ...	2.76 + "	October, . .	6.95 "
May, ...	4.2 + "	November, .	5.36 + "
June, ...	4.05 "	December, .	3.01 + "

From this table it may be seen that there is a rainy season extending from May through November, and a comparatively dry season from December to April, inclusive. Thus the rainy period occurs when the trade winds become irregular. The west half of the island receives the greater amount of rain and there are other local differences. There are also great irregularities in the monthly averages for different years; for example, one year February had .19 inch and another year 3.75 inches; May had one year only .47 inch and another year 16.84 inches. From January to July the cane crop is harvested, and as fast as removed replanting is done, so that the young cane receives plenty of rain when most needed. Rains come up out of a clear sky, on very short notice, and often pass away in five or ten minutes, after a tremendous downpour. Sometimes, of course, they may be several hours in duration, in which case the guts become roaring torrents of muddy water effectually blocking travel, as there are scarcely any bridges. During seasons of protracted rains the atmosphere becomes chilly, although the thermometer may show a temperature of nearly 80°. In such seasons certain plants will bloom and produce fruit. This is noticeably true of the cherry (*Malpighia glabra* L.) which often yields three or more crops in one year. A number of trees and shrubs drop their leaves during the dry season, such as *Anona squamosa*, *Samyda serrulata*, *Eriodendron anfractuosum*, *Erythroxylum ovatum*, *Melicocca bijuga*, *Spondias lutea*, *Comocladia ilicifolia*, *Piscidia Erythrina*, *Poinciana regia*, *Bauhinia tomentosa*, *Randia aculeata*, *Cordia alba*, *Crescentia cujete*, *Tecoma leucoxylon*, *Bignonia unguis*, *Citharexylum quadrangulare*, *Phyllanthus distichous*, *Hippomane Mancinella*, *Hura crepitans*, and others.

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* Flora of St. Croix and the Virgin Islands, page 4.

Unlike St. Jan and St. Thomas, St. Croix is fertile and capable of extensive agricultural operations, having already been one of the notable sugar producing islands of the Antilles. The total number of acres in cane cultivation in 1889 was 16,479, yielding a little less than 15,000 tons of sugar, 118,000 gallons of rum and 271,400 gallons of molasses, the whole valued at $1,069,324.

Most of the sugar is manufactured at the great central sugar factory, near Bassin, which is under government control. There are about 72 estates ranging in size from 150 to 2,165 acres. The original number of estates was much larger, but in recent years they have been united; for example, "Wheel of Fortune" estate now includes the original estate together with those of Fredericks Haab, Stony Ground, Mar's Hill, Two Brothers, Hesselberg, and Smith's Field. Each estate has its own little village of stone huts, surrounding or near the estate house, where the people who are employed in the fields live with their families. Isolated dwellings are uncommon. For example: The estate of Big Princess is worked by 71 men and 62 women, most of whom live in its village with their families. This is a village of average size. There are required besides, for this same estate, 32 mules and 28 oxen. The total number of men thus employed on the island, in 1890, was 3,635, or 23.6 to every 100 acres; the total number of women was 2,743, or 17.9 to each 100 acres; the number of mules was 1,211, or 7.9 to each 100 acres; and the number of oxen was 1,576, or 10.3 for 100 acres. These figures do not include the owners, managers, overseers with their families, squatters, invalids, nor children under thirteen years of age. The amount of land leased to squatters is increasing year by year, showing a tendency on the part of the natives to become independent. Besides the laborers employed on the estates, many work in the sugar factory and on the docks, others are engaged in fishing and hunting, while a large number live from hand to mouth.

A few estates are engaged in raising fruit. Little La Grange has an extensive banana field, and over 10,000 pineapples were grown in

1895. Spring Gardens has extensive plantations of cocoa, coffee, mangoes, oranges, vanilla, etc. There is no doubt that the future prosperity of the island depends largely on the growing of fruit.

Besides bananas, pineapples, oranges, lemons, limes and coconuts, a number of fruits not so commonly known are grown, making St. Croix a fine field for the horticulturist or pomologist. Many of these fruits have promising qualities that could be developed. The guava (*Psidium*) is well known as furnishing a most delicious preserve and jelly. The trees thrive well in grass lands and spread rapidly. The mango (*Mangifera indica*), of which there are a number of varieties, is of much importance locally. Some varieties have a very strong turpentine odor and taste, which in others is almost lacking. A favorite way of eating the fruit, which is yellow in color, bean-shaped, and about the size of a goose egg, is to knead it, then cut a hole in the tough skin and suck out the semi-fluid contents. They thrive well in moist localities and are very productive. The cashew (*Anacardium occidentale*), which is one of the most attractive fruits: is somewhat of the shape and size of a bell-pepper or pear and has a bean-shaped nut at the lower end. The upper part is bright scarlet or lemon-yellow, very shiny and smooth. It is juicy and sweet and is very good stewed, resembling a sweet-apple conserve. The nuts contain a very acrid oil which produces painful blisters. By roasting, this oil is driven out and the kernel then becomes edible and has the flavor of an almond. These trees thrive on the hillside and places where there is a moderate amount of moisture. The mespel (*Sapota achras*) of several varieties and sizes is grown, some being spheroidal and others oval, or egg-shaped, about the size of an apple; they have a russet-brown, scaly coat, and, when unripe, possess an acrid, milky juice; the flowers emit an odor like "machine oil." The fruit is plucked when it will snap off easily and is laid away in a cool, dark place for a few days, when the juice loses its milky and acrid nature and the fruit becomes very luscious and sweetly astringent. They will bear shipping, and are sometimes found in the New York markets. The kenep (*Melicocca bijuga*) is very common, and, though not cultivated, there is a diversity in the size and flavor of the fruits. The flowers are very delicately vanilla-scented, and the fruit is borne in clusters like grapes, each fruit being round or egg-shaped, green, shiny, and minutely warty. The outer shell is about one-sixteenth of an inch thick, white inside, quite brittle and free from the endocarp which is flesh-colored, somewhat gelatinous, sour-astringent, and adhering to the large white seed. The soursop (*Anona muricata*) and custard-apple (*Anona reticulata*) are common. The fruit of the former often attains a diameter of seven or eight inches and has a smooth tuberculate, green surface; the white curdy pulp having a pleasant acid taste and making a very delicious sherbet. The custard apple is sweet and aromatic, full of silicious granules. It is usually about the size of an apple, pale-green with deeply reticulated or areolated surface. The mamey apple (*Mammea Americana*) is round, russet-brown, from three to eight or more inches in diameter. The outer skin is tough and one-eighth inch to one-quarter inch thick. It separates readily from the firm, yellow, juicy, slightly-stringy flesh which has a mild, sweetly acid taste. The big, brown, scaly seed separates readily. The cherry (*Malpighia glabra*) furnishes excellent, clear jellies and preserves. The bush is very prolific, bears several crops a year, the berries being shiny-red and roundish or cuboidal in shape, about the size of our common cherry. The flavor is sharp and pleasant. Tamarinds are abundantly grown, their cinnamon-brown, indehiscent pods being several inches long, very brittle, and free from the brownish, intensely acid flesh in which the seeds are embedded. They are packed in syrup and shipped to the United States in kegs or jars; if eaten without sugar the tongue becomes sore in a short time. The trees grow to a very large size and the yellow wood is very hard and tough. The guava berries (*Eugenia floribunda*) are shiny black, about the size of small marbles, bitterly aromatic, making good preserves. *Mouriria domingensis* (Walp.) has a fruit much like a persimmon in taste, color, size and shape. It is rare, however, and its qualities little known, though I have eaten it and found it excellent. The bell-apple (*Passiflora laurifolia*) has a large berry whose pulp, resembling raw white of an egg, has the taste of rose-water and makes a delicate dessert eaten from wine glasses. The red manjack (*Cordia collococca*) has bright crimson berries the size of cherries with an astringent, glutinous flesh. The calabash (*Crescentia cujete*), whose fruit is used for making cooking utensils, is very common. The blossoms appear principally on the trunk and thick limbs much like adventitious buds. The fruit is round or nearly so, varying from three inches to a foot in diameter —green, smooth and hard. The shell, which is about one-eighth to one-quarter inch thick, contains a pulpy flesh adherent to it. This shell is prepared for use by sawing the fruit in half, scooping out the pulp, and then boiling in water with ashes. A sharp shell is then used to scrape the inside surface, when it is set away for several weeks to cure. The vessel is then of a brown color, brittle but hard, and is ready to be used in cooking.

They sell for from one up to ten cents apiece. The sea-grape (*Coccoloba uvifera*) bears clusters of egg-shaped, plum-colored fruits, about the size of small plums, with a very astringent, rank taste. They are said to make a good jelly and preserve. The alligator pear (*Persia gratissima*) is used extensively as a vegetable, being eaten raw with salt and pepper. The flesh is yellowish, of a buttery consistency, and mild flavor, somewhat resembling pumpkin. Of the well-known fruits, the varieties are excellent. The oranges are of exquisite flavor and good size, though there is only one estate (Spring Gardens) where orange culture is engaged in to any great extent. Bananas, known locally as "figs," are of unsurpassed quality and are grown extensively at Little La Grange and Canaan. The limes are far better, and, consequently, are used much more than lemons. The pineapples are of good size and unusually fine flavor, most of the varieties being yellow-fleshed. There is no reason why St. Croix should not furnish the New York markets with this fruit, as it thrives on soil that will not grow cane.

The various insurrections, the abolition of slavery in 1848, the fall in the price of sugar and cotton after our civil war in America, and the impoverishment of the soil have diminished the prosperity of the island, but the future is bright. American ideas and American energy can reclaim the barren places and make St. Croix one of the great tropic fruit markets of the world.

BOTANICAL HISTORY.

According to Prof. Ignatius Urban, from whose exhaustive work* the following historic, biographic and bibliographic account of the botanical work done upon the island of St. Croix has been compiled, the study of its flora began about the year 1650 with the investigations of Jean Baptiste Du Tertre:

1650–56. TERTRE HIST. ANT.—DU TERTRE: Histoire generale des Antilles habitees par les Francais, enrichie de cartes et de figures. Paris, 1667–71, 4 vols. 4°: vol. I (1667), 535 p., 3 tab.; II (1667), 539 p., 13 tab.; III (1671), 317 p., 3 tab.; IV (1671), 362 p., 5 tab. (Bibl. Krug et Urb.).—Primum produit Parisiis 1654, 1 vol. (ex ipso).

The author, Jean Baptiste du Tertre of the Order of Dominicans, after a long sojourn in French Antilles, issued (1654) a book under this same title, but in much shorter form, and so far as natural history is concerned, only in the nature of a sketch. However, in 1656 he visited the still unknown islands and wrote the present extensive work. Volumes I, III and IV contain a history, from authentic sources, of the islands St. Christopher, where the governor of the French Antilles resided, Guadeloupe, Martinique, St. Croix, Marie Galante, which is accompanied by a map, and also of La Tortue, St. Martin, St. Bartholemy, Saintes, S. Lucia and Grenada.

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*Symbolæ Antillanæ, 3. 1 : 14-152.

Volume II contains the natural history of the islands. A concise description of the same follows a section with numerous extracts from the travels of the author, ebb and flow, meteorological observations, and remarks on the minerals. The greater part of the volume is given over to the plants, animals, and the inhabitants. Concerning the botanical part, he assures us that he has written nothing except that which was vouched for by his own hands, eyes, and taste, and, in fact, his unusually good description and passable illustrations have received proper recognition from his successors. The plants are presented with only the French vernacular names. For the most part it is the fruit trees and useful woods of the Lesser Antilles that are here for the first time described. The plates give reduced pictures of some of their habitats. The work has been much used and pirated from by later authors.

1694–1705. LAB. VOY. — JEAN-BAPTISTE LABAT: Nouveau voyage aux isles de l'Amerique contenant l'histoire naturelle de ces pays, l'originem les moeurs, la religion et le gouvernement des habitans anciens et modernes, les guerres et les evenemens singuliers qui y sont arrivez pendant le long sejour que l'auteur y a fait, le commerce et le manufactures qui y sont etablies, et les moyens de les augmenter. Avec une description exacte et curieuse de toutes ces isles. Ouvrage entichi de plus de cent cartes, plans et figures en tailles-douces. Paris, 1722, 6 vol. 12° (Bibl. reg. Monac.).—Editio: La Haye, 1724, 6 vol. 12° (Bibl. reg. Berol.).—Editio in quarto: La Haye, 1724, 2 vol. 4° (Bibl. reg. Berol.).—Nouvelle edition augmentee considerablement et enrichie de figures en tailles-douces. Paris, 1742, 8 vols. 12° (Bibl. reg. Monac.).—Translated into the German from the latest Paris edition by Georg. Frederich Casimir Schad; with necessary notes, complete index, many maps, plans and other engravings. Nurnberg, 1782–88, 7 vols. 8vo (Bibl. reg. Monac.).—Extat præterea (ex Schad in præfatio) editio. Paris, 1738, 6 vol. 12mo.

Father Labat of the Dominicans was active on the islands of Martinique and Guadeloupe, first as a priest and later as Superior and Vice-Prefect, and in his travels also became more or less intimately acquainted with Grenada, Becquia, Barbados, St. Vincent, S. Lucia, Dominica, Saintes, St. Christopher, St. Eustach, St. Bartholemy, Saba, St. Martin, St. Thomas, St. Croix, Crab Island and San Domingo. His experiences and keen observations of the land, people, animals, plants, culture, industry, etc., are arranged chronologically in the form of a journal of travel. They materially increased the knowledge of the Antilles in their time. The plants are referred to by their vernacular names, and their properties and uses are carefully described. The identification of those not figured is possible only in so far as they are still in use under the local name. The accompanying plates contain maps of the Gulf of Mexico and the Antilles, Martinique, Guadeloupe, Barbados, Grenada, San Domingo, St. Christopher, plans of fortresses, drawings of animals, plants, sugar refineries and indigo plantations. Many of the plants are well drawn and easily recognizable, others are somewhat superficially depicted, and still others are rude and irrecognizable.

In Trevoux's Memoires pour l'histoire des sciences et des beaux arts, Juillet, 1727, p. 1303–18, a "Botaniste habitant des isles occidentales de l'Amerique" gives amplifications and corrections to several of Labat's descriptions (Abricotier, Ananas, Bois d'Inde, Cassier, Cacao, Gommier, Indigo).

1757–91. ROHR, JULIUS PHILIPP BENJAMIN VON (about 1737–93), born in Denmark, was a surveyor from 1757–91 on St. Croix, later chairman of the Provincial Board of Administration, and also First Lieutenant of Militia. In order to improve cotton culture on the Danish Islands, he visited for the purpose of study, beginning in 1786, Jamaica, Porto Rico, St. Thomas, Montserrat, Guadeloupe, Martinique, Trinidad, Curaçao, Sta. Martha, Carthagena, Cayenne and Surinam. He sent several hundred plants collected on the various islands to Prof. Vahl at Copenhagen. In 1791 he took his departure from St. Croix, and in 1793 the ship on which he was making the voyage from North America to Guinea was lost at sea.

Coll.: Bot. Museum, Copenhagen; some also in Herb. Banks, Brit. Museum; Herb. Martins, Brussels; and Herb. Willdenow, Berlin (ex-Herb. Vahl.).

Lit.: Vahl Eclog. Præf.; Las. Mus. Deless., p. 489; Warm in Bot. Tidsskr. Kopenh. XII (1880), p. 82; Kiærsk. l. c. XXIII (1900), p. 44; H. von Eggers, correspondence; Cat. Sc. Pap. V., p. 258; Urb. Symb. I, p. 140, 173.

1767–68. OLDEND. GESCH.—C. G. A. OLDENDORP'S Geschichte der Mission der Evangelischen Brueder auf den Caraibischen Inseln St. Thomas, St. Croix und St. Jan. Published by John Jacob Bossart. Barby, 1777, 2 vol. 8' Vorr., 1068 p.; Reg., 3 chart. geograph., 4 tab.

With a view of making some preparatory studies for the above work, Oldendorp spent from May, 1767, until October, 1768, on the islands of St. Thomas, St. Croix and St. John. Inasmuch as he was a great lover of natural history, he took note also of the animal and plant life, substantially encouraged in the latter by Chief Engineer von Rohr, who was at that time the best authority on the Caribbean flora. In the botanical section, vol. 1, p. 154–227, are described in an excellent manner, together with their local and botanical names, the economic and medicinal plants, the fruit trees, the timber and dye woods and other rare and remarkable plants.

1780. RYAN, JOHN, M.D., was a plantation owner during the second half of the eighteenth century, on Montserrat, and a friend of von Rohr. He collected on St. Croix and St. John and had his brother collect for him on Trinidad. On his return he turned over all his excellently cured specimens, together with flowers and fruits preserved in alcohol and his notes pertaining to the collection, to Prof. Vahl of Copenhagen. He died in the beginning of the nineteenth century.

Coll.: Bot. Museum, Copenhagen.

Lit.: Vahl Ecl. Præf.; Kiærsk. in Bot. Tidsskr. Kopenh. XXIII (1900), p. 44.

1786–87. RICHARD, LOUIS CLAUDE MARIE (1754–1821), born at Auteuil (France), September 4, 1754, oldest son of Court Gardener Claude R., and nephew of the keeper of the gardens at Trianon, left the paternal home because he refused to take ecclesiastic orders in obedience to his father's wishes, entered the College Mazarin, Paris, studied mineralogy, zoology, comparative anatomy and especially, under Bernhard de Jussieu, botany, and besides earned more than his living draughting garden plans. In 1781 he was sent by King Louis XVI, at the instigation of the Academy of Sciences, to Guayana to extend the range of economic plants on the French Antilles and to introduce the same into the Old World. In 1785 he made a journey to Brazil (Pará), and then from February, 1786, until November, 1787, he visited the islands of Martinique, Guadeloupe, Antigua, Barbados, Anguilo, St. Croix, Tortola, St. Thomas, St. John, Porto Rico and Haiti, and then went back to Guayana, returning to France with his rich treasures from the animal, plant and mineral kingdoms and many valuable sketches, in the spring of 1789. In the meantime there had been a political change in France, and he found not only the sovereignty but also the Museum in the hands of men who did not wish to know anything about his mission, and furthermore declined to reimburse him the expenses of the expedition, which he had borne out of his own means. This unjust treatment destroyed his desire to publish his many discoveries, and he was compelled to resume landscape architecture as a means of earning his livelihood. Finally, in 1795, when Fourcroy had founded the School of Medicine, he received the professorate of botany in the same, established a small botanical garden and educated a number of real scholars. His publications were not numerous, and though they were most excellent, they were not at all comparable, according to the testimony of his contemporaries, with the discoveries that he actually made in the realm of botany and zoology. He died in Paris after a prolonged illness, June 7, 1821.

Coll.: His excellent herbarium went into the possession of his son, Achille Richard, who elaborated the phanerogams in Sagra's Historia de Cuba. After the death of the latter the collections of both father and son, of which the Herb. Guyanense-Antillanum included 2,604 species, the Herb. Cubense (Ramon de la Sagra, Linden, etc.), 4,464 species, together with a large number of duplicates, were purchased (1856) by Count Alfred de Franqueville of Paris, who loaned them to botanists in a most liberal manner for the purpose of study. In 1891, after the count's death, the herbarium was purchased by Drake del Castillo who presented a part of it to the Paris Museum. There are duplicates in Herb. Vahl, Copenhagen; Herb. Willdenow, Berlin; Herb. Casson, Paris.

Lit.: K. S. Kunth: Notice sur Louis-Claude-Marie Richard, Paris, 1824, 8°, 23 p. (ex-Pritz. Thes. I ed., p. 145); extract therefrom in Hook. Journ. of Bot. IV (1842), p. 423–433 (with portrait); G. Cuvier: Eloge hist. de M. Richard in Mem. du Museum d'hist. nat. XII (1825), p. 349–366, et in Mem. Acad. Scienc. VII (1827), p. 194–212; Las. Mus. Deless, p. 474; Dict. Scienc. nat. vol. LVI (1845), p. 211, 212; Didot Nouv. Biogr. gener. XLII (1863), p. 184–187; Sagot in Ann. Sc. nat. VI ser., vol. x (1880), p. 366; the islands visited over against the erroneous statements of the authors according to the herbárium labels: Pritz. Thes. II ed., p. 48, 97, 263; Jacks. Guide, p. 8, 36, 129, 354, 508; Cat. Sc. Pap. V, p. 187; epistolary contributions concerning the Herb. Richard, von Drake del Castillo in Paris and ex-Hook. Journ. of Bot. and Kew Misc. VIII (1856), p. 81, 82; also Botan. Zeitung XIV (1856), p. 151, 152.

1787. ISERT, PAUL ERDMANN (1757–89), born in Denmark in the year 1757, went as chief physician to the Danish possessions in Guinea in 1783, where he remained until 1786, devoting himself incidentally to the study of natural history. His return voyage took him across America (Columbia) and also to the islands of St. Croix, St. Thomas, St. John, St. Eustache, Guadeloupe and Martinique. On St. Croix and Martinique especially, he collected plants during 1787, returning to Copenhagen in the same year, where he died in 1789.

Coll.: Bot. Museum Copenhagen; Herb. Willdenow, Berlin; Herb. Univ. of Leipsig.

Lit.: Warm. in Bot. Tidsskr. Kopenh. XII (1880), p. 79; Kiærsk. l. c. XXIII (1900), p. 41; Pritz. Thes. II ed., p. 158; Urb. Symb. I, p. 84.

1788–1800 WEST, HANS (1758–1811), son of a preacher, born in Hindsholm on the island Fuenen (Denmark) in 1758, studied modern languages in Copenhagen, and in 1788 went to St. Croix, where until 1800 he was rector of the Christiansted school and later notary public. Went as consul to Holland in 1802, and died at Cassel while on his way back from France. He collected for the most part on St. Croix, but also on St. Thomas, Crab Island, Porto Rico (whither he made excursions with Ledru in 1797), and on Martinique. His collections, consisting of both phanerogams and cryptogams, were sent to Prof. Vahl of Copenhagen.

Coll.: Bot. Museum, Copenhagen; some also in the Berlin Museum, and in Herb. de Candolle (ex-Herb. Pueraris).

Lit.: Vahl. Ecl. Præf.; Warm. in Bot. Tidsskr. Kopenh. XII (1880), p. 82; Kiærsk. l. c. XXIII (1900), p. 45, 46; Pritz. Thes. II ed., p. 344; Urb. Symb. I, p. 173, 174–176.

1796–? PFLUG, DR., collected on St. Croix during the closing years of the eighteenth century for Prof. Vahl of Copenhagen, who discovered a number of new species among his plants. He died before 1797 on St. Croix while still a young man.

Coll.: Herb. Vahl in Bot. Museum, Copenhagen; some also in St. Petersburg.

Lit.: Vahl Eclog. I (1797) præf.

1797. LEDRU, ANDRE PIERRE (1761–1825), born at Chantenay, Dept. Sarthe, near Nantes (France), January 22, 1761, an ecclesiastic in calling, accompanied as botanist the expedition of Captain Boudin to the West Indies. The expedition sailed from Havre at the end of September, 1796, was detained almost six months on the Canaries, made Trinidad in eight days without having had much opportunity for collecting, and remained on St. Thomas from April 29 until July 16, 1797. From here he made a twelve-day side trip to St. Croix, where he botanized in company with West. From July 17, 1797, until April 13, 1798, was spent making an investigation of the northern and northeastern parts of Porto Rico, which, like St. Thomas, yielded a rich collection of living and dried plants, and fruits also. On his return he became Professeur de Legislation in the Ecole Centrale de la Sarthe in Le Mans, founded a botanical garden, and wrote numerous works on local history, biography and art. He died in Le Mans July 11, 1825.

Coll.: Herb. Jussieu and General Herbarium of the Paris Museum, about 900 species in 8,000 sheets, some also in Herb. Lamarck of the same Museum; duplicates in the Berlin Museum (ex-Herb. Kunth.), Krug et Urban, Florenz (Herb. Webb. ex-Herb. Desfontaines), Montpellier (ex-Herb. Cambess.). The labels are not always reliable; a large number of the St. Thomas plants undoubtedly come from Porto Rico, and some San Domingo plants have also become admixed. Ledru's private herbarium is in the Municipal Museum of Le Mans.

Lit.: W. B. Hemsl. Bot. Chall. Exp. (1884), p. 5, 6; Sir Jos. D. Hooker in Proc. of the Royal Geogr. Soc. XIII (1891), p. 115–122; R. H. Vetch in Dict. Nat. Biogr. XXXII (1892), p. 399–404; Cat. Sc. Pap. III, p. 930, X, p. 552; Urb. Symb. I, p. 95.

1817–48. BENZON, PEDER EGGERT (1788–1848), son of Rev. L. J. Benzon, born at Vestenskov on the island of Laaland (Denmark) October 27, 1788, passed his pharmaceutical examinations in 1814, went to Christiansted, St. Croix, as pharmacist in 1817, later became assessor of pharmacy at that place, and in 1848 returned to Copenhagen, where he died on July 24, shortly after his arrival. He collected chiefly on St. Croix, but also on St. John and St. Thomas.

Coll.: Bot. Museum, Copenhagen (bearing for the most part the herbarium labels of Alfred Benzon).

Lit.: Warm. in Bot. Tidsskr. Kopenh. XII (1880), p. 121; Kiærsk. l. c. XXIII (1900), p. 35; Cat. Sc. Pap. I, p. 285.

1819–39. RAVN, PETER, (?–1839), born in Drobak (Norway), passed his surgical examinations in 1816, went to St. Thomas in 1819, where he became garrison surgeon in 1830 and regimental surgeon in 1834; died there April 26, 1839. He collected on St. Thomas, St. Croix, St. John and Vieques (Crab Island).

Coll.: Bot. Museum, Copenhagen; some specimens also in Herb. de Caudolle, Geneva.

Lit.: Krebs. Bidr. St. Thom., p. 291; Kiærsk. in Bot. Tidsskr. Kopenh. XXIII (1900), p. 43.

1825. PARKER, CHARLES SANDBACH, (?–1868 or 1869), born in Glasgow (Scotland), studied botany under P. de Candolle, traveled over British and Dutch Guayana in 1824, went from thence with his own schooner to the West Indies (Trinidad, Barbados, St. Vincent, Guadeloupe, St. Croix and Porto Rico), and was shipwrecked between Guadeloupe and Antigua, thereby losing a large part of his collection. He assisted Roscoe with his Scitamineæ, and died in 1868 or 1869.

Coll.: Kew Herbarium; duplicates in Cambridge.

Lit.: Regensb. Flora vol. VIII, II (1825), p. 493; DC. Prodr. XII, p. 110; Las. Mus. Deless., p. 492; Britt. and Boulg., p. 131; Cat. Sc. Pap. IV, p. 758; Urb. Symb. I, p. 108.

1825–44. HORNBECK, HANS BALTZAR, (1800–70), son of Cashier C. R. Hornbeck, born in Copenhagen, January 9, 1800, studied medicine in his birthplace and in 1825 went to St. John to practice his profession. Here, soon after his arrival, he became district surgeon, and in 1827 territorial physician to the Danish West Indies. He collected plants and other natural history specimens chiefly on St. John, but also on St. Croix, St. Thomas and Porto Rico. He returned to Copenhagen in 1844 and died there February 2, 1870, while physician to the Copenhagen Hospital (Kopenhavns Sygehjem).

Coll.: Bot. Museum, Copenhagen.

Lit.: Kiærsk. in Bot. Tidsskr. Kopenh. XXIII (1900), p. 40; Cat. Sc. Pap. III, p. 434.

1841. BREUTEL, JOHANN CHRISTIAN (1788–1875), born at Weissenburg, Middle Franconia, Bavaria (Germany), January 21, 1788, received his education at Ebersdorf (Reuss), joined the Moravian brethren and learned the trade of glovemaking. As steward of the Moravian church he served at Gnadenfrei (Silesia) 1814–19; at Neuwied (Rhenish Province), 1819–24; at Niesky (Liegnitz), 1824–32, and as a member of the board of directors he served at Berthelsdorf, near Herrnhut (Saxony), 1832–57. While in the latter position he made two more comprehensive voyages of visitation. In December, 1840, he made a voyage to the islands St. Thomas, St. Croix, St. John, St. Kitts and Antigua, remaining until July of the following year, and during 1853–54 he visited South Africa. Became bishop in 1853, retired in 1857, and died February 18, 1875, at Herrnhut. The plants collected by Breutel on his voyages were mostly cryptogams. He also attended to the distribution of the cryptogamic part of H. G. L. Reichenbach's Flora Germ Exsicc., beginning with the third century.

Coll.: The first set of duplicate ferns (now in the Leipzig Herbarium) were acquired by G. Kunze, and the liverworts (now in the Berlin Museum) by Gottsche. There is a large moss collection (310 nos.) of Breutel's in the British Museum. There are other collections in the Municipal Natural History Museums of Bremen and Lübeck, in Bot. Museum at Breslau, and in Herb. Hieronymus (now in Berlin), etc.

Lit.: Briefl. Mittheilung des Missions-Directors G. Burkhardt in Berthelsdorf; Ref. Flora XXXII (1849), p. 525; Cat. Sc. Pap. I, p. 612; Urb. Symb. I, p. 16.

1841. LIEBMANN, FREDERIK MICHAEL (1813–56), born at Helsingör (Denmark), October 10, 1813, began his studies at the University of Copenhagen in 1832, occupied himself at first especially with the Algæ of Denmark and bordering countries; went to Germany in 1835, to Norway in 1836, became instructor in botany in the Veterinary School in 1837, and in 1841, under the patronage of King Christian VIII, went to Mexico, where he traveled from February, 1841, until March, 1843. On his outward journey he collected during January, 1841, on St. Croix and Porto Rico, and on the return voyage, during April, 1843, he spent several weeks in Cuba. While engaged in working up his extensive collections he died, comparatively early, on the 29th of October, 1856, as professor-in-ordinary while director of the Botanical Gardens, Copenhagen.

Coll.: Bot. Museum, Copenhagen; duplicates in the herbaria of Kew, Berlin, Leyden and de Candolle.

Lit.: Las. Mus. Deless., p. 468; Oersted: Notice sur la vie de Liebmann et specialement sur son voyage au Mexique in Liebmann: Chenes de l'Amerique tropicale (1869), p. 7–10; Hemsl. Biol. IV, p. 129; Leon Bibl. Botan. Mexic. (1895), p. 355; Warming in Bot. Tidsskr. Kopenh. XII (1880–81), p. 158–162, et in Bricka's Dansk biogr. Lex. vol. X (1896), p. 281–283; Kiærsk. in Bot. Tidsskr. XXIII (1900), p. 42; Pritz. Thes. II ed., p. 184; Jacks. Guide, p. 139, 333, 445; Cat. Sc. Pap. IV, p. 21–22.

1843–70. KREBS. HENRIK JOHANNES (1821), born in Svendborg, on the Island of Fuenen (Denmark), June 8, 1821, son of Rev. J. K. A. Krebs, studied pharmacy, and in the autumn of 1843 went to St. Thomas. From this island as a base he made numerous journeys to North and South America, to the Bermudas and Bahamas

(1866), to Cuba, Jamaica, San Domingo, Porto Rico, and repeatedly to St. John and St. Croix. In 1853 he became Swedish-Norwegian Consul on St. Thomas, and finally, indeed, President of the Colonial Assembly. In 1870 he returned to Denmark and now lives in Copenhagen. He has published numerous contributions on Mollusks.

Coll.: Bot. Museum, Copenhagen.

Lit.: Warm. in Botan. Tidsskr. Kopenh. XII (1880–81), p. 188; Kiærsk. l. c. XXIII (1900), p. 41; Cat. Sc. Pap. III, p. 747; VIII, p. 123; X, p. 462; Urb. Symb. I, p. 89.

1845–46. OERSTED, ANDERS SANDOE (1816–72), born at Rudkoebing, on the Island of Langeland (Denmark), June 21, 1816, son of a merchant and bank director, began his studies in 1835 in Copenhagen, went to Denmark on a scientific expedition in 1842, received his Master's degree in 1844, which was recognized as a doctorate in 1854, and in 1845 began his expedition to the West Indies and Central America. He visited St. Thomas, St. Croix and many other islands of the Lesser Antilles, for example, Grenada, and later Jamaica. In May, 1846, he repaired to Nicaragua and Costa Rica, from whence he returned to Copenhagen in July, 1848. In 1851 he fitted himself for the position of Privatdocent in the University, became professor in 1860, and died in Copenhagen, September 3, 1872. The results of his American travels included zoology, especially the lower marine animals, as well as the plant world.

Coll.: Bot. Museum, Copenhagen; several families also in the Berlin and Kew Museums.

Lit.: R. Brown in Trans. Bot. Soc. Edinb. XI (1872–73), ex-Hemsl. Biol. IV, p. 130, 328; Kiærsk. in Bot. Tidsskr. XXIII (1900), p. 46–47; Pritz. Thes. II ed., p. 236; Cat. Sc. Pap. IV, p. 696–697; VIII, p. 537; X, p. 949–950; Jacks. Guide, p. 23, 91, 102, 108, 142, 146, 148, 165, 333, 338, 367; Warm. in Bot. Tidsskr. XII (1880–81), p. 162–171; Urb. Symb. I, p. 118, 119.

18— - 18—. READ, JAMES, a North American ship officer, collected on Porto Rico, St. Thomas, St. Croix, Guadeloupe and Curaçao, also in China.

Coll.: Acad. of Nat. Sc. Philadelphia. The West Indian plants, whose origin as to the particular island does not seem to be always reliable, are also in Herb. Krug et Urban.

1870–74. EGGERS, HEINRICH FRANZ ALEXANDER, BARON VON (1844), son of police director Fredrich Baron von Eggers of Schleswig, born January 4, 1844, attended the Gymnasium at Odense (Denmark), later studied under a tutor in Copenhagen, and in 1864, as officer-aspirant, he entered the Danish army and engaged in the war with the Germans. At the end of 1864 he took a furlough and enrolled himself at Laibach in the Austro-Belgian Corps of the Imperial Mexican volunteers. Arriving at Vera Cruz in

April, 1865, he accompanied several expeditions against the Mexican republicans (Juarists), was promoted to a lieutenancy in September, 1865, but was made a prisoner of war in Oaxaca, October, 1866, after a siege of one month. After regaining his liberty in April, 1867, he made several trips into Southern Mexico and returned to Denmark in November of the same year. Early in 1868, as lieutenant, he again entered the Danish service and was assigned in 1869 to the troops in the Danish West Indies. In 1870 he was made first lieutenant and in 1879 was promoted to captain and placed in command of a company. His garrison was, 1869–72, St. Croix; 1872–73, St. Thomas; 1873–74, St. Croix; 1874–85, St. Thomas. In 1885 he retired from the service on a pension, remained in St. Thomas until 1887, and now lives at Charlottenlund, Denmark.

Eggers began the activity which has been so rich in results for the knowledge of the flora of the Antilles in 1870 with the investigation of the island of St. Croix, whose vegetation he described and enumerated in 1876 in his Flora of St. Croix (cf. Urb. Symb. I, p. 41). After his transfer to St. Thomas he studied the plant society of that island and made side trips to Water Island, Crab Island and St. John, and combined the results of his observations in 1879 in his Flora of St. Croix and the Virgin Islands (cf. Symb. I, p. 42). In 1880 he began the distribution of his Flora Indiæ Occidentalis exsiccata. This included not only the plants from St. Thomas, but also those collected on Dominica (1880–83), St. Kitts (December, 1882), eastern Porto Rico (June, 1881; April, May, 1883), and also those collected by his assistant on Trinidad in the autumn of 1883. In the months of April until July, 1887, Eggers, supported by the Berlin Academy of Sciences, made a journey of investigation and collection to San Domingo, which extended from Puerto-Plata out over Jarabacoa, the Monte Barrero Lacumbre, to the Valle Nuevo and the Pico del Valle (2630 m.) in the Sierra de Cibao (cf. Symb., p. 45). On the return voyage he visited the vicinity of Cape Haitien in Haiti and the southeastern Bahamas, Turks Island (Grand Turk, July 17, 1887), where the plants peculiar to this island were again discovered. On the following voyage Eggers, supported by the Danish Carlsberg fund, investigated the islands St. John and Tortola (December, 1887; January, 1888), and went by way of St. Thomas, Haiti (Jacmel, Port-au-Prince, Jeremie) to Jamaica, where he collected in the eastern part (Guava Ridge, Catherine's Peak, etc.) until the end of January, 1888. From here he turned to the Bahamas, for whose botanical investigation the British Association of London had extended the necessary means, and during the month of February and until the middle of March, 1888, visited Acklins, Fortune, Long, Hog and New Providence island. Eggers collected in the mountains of eastern Cuba from February until May, 1889, especially on the Rio Guaso near Guantanamo, Arroyo gallego, Rio Seco, La Piedra, El Palenquinto. El Jaguey, La Clarita and Santa Ana Monteverde (830 m.), La Prenda and Caimanera. The investigation of the Lesser English Antilles, Tobago, Grenada, St. Vincent, Bequia and the Barbados was carried on from

October 20, 1889, until January 31, 1890, and yielded for these as yet little known (except St. Vincent) islands a comparatively rich result. This and the preceding voyages were made possible by the liberality of Consul Leopold Krug. In 1891 Eggers went to Venezuela by way of the Barbados and Tobago at the expense of the Danish government, where he investigated the region around Caracas, especially near Santa Lucia. Six months during 1891–92 were spent in Ecuador studying the costal region around Guayaquil and especially near Balao. In 1893 he went by way of La Guayra and Curaçao to Maracaibo in Venezuela, to make observations for a report on the asphalt deposits near S. Timoteo on Lake Maracaibo. From 1893 until 1897 he was in Ecuador, especially in the province of Manabi on the Hacienda el Recreo near Bahia de Caraquez engaged in agriculture. He made many interesting discoveries in this hitherto botanically neglected costal region.

In 1899 he again visited Trinidad, Tobago and Venezuela, in the last especially the vicinity around Puerto Cabello and Caracas.

Coll.: The collections of phanerogams and seaweeds from St. Croix (1870–72, 1873–74) were presented to the Botanical Museum, Copenhagen; a part is also in Herb. Krug et Urban. The plants from St. Thomas, Porto Rico, St. Christopher, Dominica and Trinidad (1880–86) were distributed to nearly all the greater botanical museums and many individuals; they were partly sent out by Eggers himself (hb. pr.: Nos. 1–1499) to Kew, the American museums, some also to Copenhagen, and Herb. Krug et Urban, and partly by A. Toepffer of Brandenburg, who sent out eleven centuries with peculiar numbering to the remaining museums and private subscribers. The remainder of the Eggers collection was distributed by Ernst Berge of Leipzig under a third set of numbers, while the remnants of the Toepffer herbarium given out by C. Rensch of Berlin were issued, some under the Toepffer numbers, others under the original Eggers numbers, while still others received a secondary or *b* series of numbers. These remnants also furnished the twelfth century. In like manner Eggers also distributed a collection "Segmenta lignorum Ind. occid." of about 350 species, also "Fructus et Semina Ind. occid." about 500 species. The collections of Eggers' later expeditions were personally distributed and are therefore consistent and reliable; the best set together with all uniques, so far as the West Indies (except St. John and Tortola) up to 1890 are concerned, are to be found in Herb. Krug et Urban. The San Domingo Expedition yielded Nos. 1500–2861 (San Domingo 1500–2821, Haiti 2821*b*–2845*b*, Turks Island 2846–2861) and went into the herbaria of Kew, Hamburg, Gӧttingen, Breslau, Leyden, Munich, de Candolle in Geneva, Dr. Schrader (now geol. Landesanstalt, Berlin), Prof. Kurtz-Cordoba, J. F. Hamilton; London, Institute of Forestry; St. Petersburg, Dr. Keck (now in the Museum of the botanical garden at Wien), Bremen; J. D. Smith, Baltimore; Prof. Palacky, Prague; New York Botanical Garden; Prof. Mez, Halle; St. Petersburg Bot. Garden; Herb. Delessert in Geneva. The plants from St. John and Tortola (Nos. 3001–3299, 3300*a*–3317*a*) are in Copenhagen and incomplete in Herb. Krug et Urban. The plants from St. Thomas (3416–3420) Haiti (3300–3415a), Jamaica (3421–3799a), Bahamas (3800–4521), Cuba (4530–5457), Tobago (5458–5968a), Grenada (5969–6590), St. Vincent (6521–7027), Bequia (7028–7073), Barbados (7074–7383), were on the other hand again distributed by Eggers himself, and the remainder by Rensch to most of the foregoing and several additional museums and individuals; for example, Budapest, Dresden, Zurich (Bot. Garden), Reichenbach (now in the Hofmuseum at Wien), Magnus-Berlin and Vatke-Berlin (now in Herb. of Prof. Hausknecht, Weimar). The collections of the Venezuela trip in 1891 are in the Copenhagen Museum; of his other journeys since 1890, in the chief museums of Europe (Kew, Leyden, Berlin, etc.): The alcohol material from Ecuador in the Bot. Museum, Berlin.

Lit.: Warm. in Bot. Tidsskr. Kopenh. XII (1880–81), p. 237–238, and in Bricka's Dansk biogr. Lex. IV (1890), p. 438–439; Kiærsk. in Bot. Tidsskr. Kopenh. XXIII (1900), p. 37–38; correspondence of Eggers; Jacks. Guide, p. 404; Cat. Sc. Pap. IX, p. 780; Urb. Symb. I, p. 41–47, 113, 122.

1892. WARMING, JOHANNES EUGENIUS BULOW (1841), born at Mano (Denmark), November 3, 1841, began his studies in 1859, traveled in Brazil from February, 1863, until 1866. While in Brazil he lived with Dr. P. W. Lund, the paleontologist, in Lagoa Santa (Minas Geraes), and carried on both botanical investigations and collecting. After his return to Copenhagen he took his master's degree in 1868, his doctor's in 1871, became instructor in the University in 1873, was a teacher in the high school at Stockholm, 1882–86, and since that time has been professor in the University and director of the Botanical Gardens at Copenhagen. In 1884 he visited Greenland, and incidentally Iceland; 1885, Finmark; October, 1891, until March, 1892, the Barbadoes, Trinidad, Venezuela, Porto Rico (Ponce, Mayaguez, Aguadilla), St. Thomas, St. Croix and St. John, and in 1897 the Faroe Islands.

Coll.: Bot. Museum, Copenhagen.

Lit.: Warm. in Bot. Tidsskr. XII (1880–81), p. 206–213; Kiærsk. l. c. XXIII (1900), p. 44–45; correspondence of W.; Pritz. Thes. II ed., p. 339; Jacks. Guide, p. 62, 85, 90, 92, 204, 333, 372, 488; Cat. Sc. Pap. VIII, p. 1197; XI, p. 751–752.

1892–96. BORGESEN, FREDERIK CHRISTIAN EMIL (1866), born in Copenhagen, January 1, 1866, where he also studied botany during his student years. Visited the islands of St. Thomas, St. Croix and St. John for the purpose of study from January until April, 1892, and again in company with O. W. Paulsen from December, 1895, until February, 1896. During the summers of 1895, 1896 and 1898 he collected marine algæ on the Faroe Islands. Borgesen is now librarian in the Botanical Garden, Copenhagen.

Lit.: Kiærsk. in Bot. Tidsskr. Kopenh. XXIII (1900), p. 37; Urb. Symb. I, p. 14; III, p. 2.

1895–96. PAULSEN, OVE WILHELM (1874), born at Aarhus (Denmark), March 22, 1874, studied botany in the University of Copenhagen, and in company with F. Borgesen spent three months (December, 1895–February, 1896) on St. Thomas, St John and St. Croix. From March, 1898, until November, 1899, he accompanied First Lieutenant Olufsen on his expedition to the Pamir Plateau. Paulsen is now assistant in the Botanical Museum, Copenhagen.

Coll.: Bot. Museum, Copenhagen.

Lit.: Kiærsk. in Bot. Tidsskr. Kopenh. XXIII (1900), p. 42; Urb. Symb. I, p. 14.

1895–96. BORG. OG PAULS. DANSK-VESTIND. OER.—F. BORGESON OG OVE PAULSEN: On Vegetationen paa de Dansk-Vestindiske Oer (Botan. Tidsskr. Kjobenhavn, vol. XXII (1898), p. 1–114. 43 figures, plates 1–11).

One of the authors had previously visited the Danish West Indies during February and March, 1892, expressly for the purpose of studying the algal flora, without however neglecting the land vegetation. When in 1895 the frigate "Fyen" made its trial trip to the West Indies he, together with his colleague, Ove Paulsen, received permission to accompany it in prosecution of his studies. As the result of their investigations (from December 22, 1895, until February 2, 1896), the above publication appeared: Concerning the vegetation of the Danish West Indies.

In this work the halophytic vegetation was elaborated by Borgesen, and is divided into five groups.

1. The sea vegetation, which notices both the sea phanerogams and some of the algal societies which occur in that region. 2. The strand vegetation which is subdivided into the littoral herbaceous plants of the Pescapræ society, and the more remote from the sea, Coccoloba-Manchinil society, which includes Coccoloba uvifera, Hippomane Mancinella and a large number of shrubs. 3. The costal cliff vegetation, with Baccharis dioica as a typical plant. 4. The mangrove vegetation, to which the author felt justified in adding besides Rhizophora, Avicennia and Laguncularia, at least so far as the West Indies are concerned, Anona palustris and Conocarpus erecta, while he excludes Bucida buceras. In the case of the individual species, as under group 2, the various morphological, biological and anatomical characters, especially the pneumatophores, are noticed. He also enumerates the plants of the slimy soil under the mangroves. 5. The vegetation of the saline clay plains, with Salicornia ambigua and many other species, which, however, also occur for the most part on the beach, for types.

The copse and forest vegetation is described by Paulsen: (1) the vegetation of Orkanoen, a small island on the west side of the harbor of St. Thomas, whose plant-covering consists for the most part of tall bushes; (2) St. Thomas, and (3) St. John with their richer forests; and finally (4) St. Croix, whose Croton-thickets, which occur chiefly on the east side of the island, are treated in detail. He also enumerates the plant species of these islands and describes the forests of the northwest side of the island. The second division of Paulsen's work contains the anatomy of xerophytic leaves.

In a floristic appendix six phanerogams new to the Danish islands and Rostrup's fungi and lichens are listed.

The eleven plates, showing vegetational aspects, are after photographs by Borgesen.

1895–96. RICKSECKER, ALFRED EDMUND, born at West Salem, Illinois, U. S. A., on the 10th of December, 1869; son of Rev. Jos. J. Ricksecker and the following. Graduated (B. A.) from Oberlin College in 1894, where later he was Assistant in Botany. From October, 1895, to September, 1896, he resided in St. Croix. In 1900 he was appointed to the chair of Professor of Science in Wilton College, Iowa, which he still holds.

Coll.: His original St. Croix collection is in the herbarium of the Field Columbian Museum; sets are to be found in the National Museum, Washington, D. C.; Missouri Bot. Garden, St. Louis; Gray Herbarium, Cambridge; Minn. State University, Minneapolis; Bot. Garden, Edinburgh; Oberlin College, Ohio; and Herb. Krug and Urban, Berlin (386 nos.).

1896–97. RICKSECKER, MRS. LEONORA AGNES, born at Nazareth, Pennsylvania, U. S. A., January 4, 1849. Attended the Moravian parochial schools, graduated at the Young Ladies' Seminary of Bethlehem, Pa. Married the Rev. Jos. J. Ricksecker in 1867. From 1893–97 she lived in St. Croix, where with the assistance of her sons, Frank and Paul, she continued in 1896–97 the collections of the above. (A. E. R.)

Coll.: Original set of plants in the herbarium of the Field Columbian Museum, Chicago; other sets in Bot. Garden, Edinburgh; and in Herb. Krug and Urban, Berlin (415 nos.).

The herbarium of this Museum having come into possession of the original and complete series of plants collected in St. Croix by the last two collectors mentioned above, I have decided to publish the species in connection with those listed by Baron Eggers in his Flora of St. Croix and the Virgin Islands. The Rickseckerian sets contain respectively 750 and 506 sheets of large, representative and neatly prepared specimens, principally with fruits and fruit sections attached. Mr. Ricksecker has furnished me with a map of his collecting routes which is here reproduced, and the following letter concerning his work upon the island:

In the summer of 1895, the plan of making a trip to St. Croix, D. W. I., for the purpose of collecting botanical specimens presented itself to me, and since my parents were at the time missionaries to that island, it occurred to me that I might profitably combine business with pleasure. After arrangements had been completed I left Oberlin, Ohio, and took the steamer "Madiana" of the Quebec S. S. Co.'s line at New York on October 3rd.

Our journey was enlivened by a severe storm off Cape Hatteras, but otherwise was without incident. On the 9th we reached St. Thomas, and the next morning arrived at West End, St. Croix, where I landed, and, after a fifteen-mile drive, reached my destination. The Moravian mission stations are Friedensberg at West End, Friedensfeld at Midland, and Friedensthal at Bassin. At the last named station my people lived and there I made my headquarters. The mission is situated just outside the town limits of Bassin, to the west, and occupies a fine position commanding a magnificent view of the town and harbor as well as the ocean, with the islands of St. Thomas and St. Jan plainly visible forty miles away to the north. The mission house being large, I had all the room necessary for my work.

I confined my attention at first to collecting from the premises and surrounding hills, but soon began excursions to the shore and various points of interest, accompanying my father on his pastoral visits and interesting my young brothers, Frank and Paul, who became my very efficient and enthusiastic helpers and who, after I left the island made a notable collection of their own. The beautiful scenery; the fine roads bordered for miles with stately coconut palms and century plants in full bloom; occasional unexpected glimpses of blue ocean; the steady cool trade-wind; the gorgeous masses of lantanas, cæsalpinas, flamboyant trees, and acacias; the broad expanses of feathery, pearl-gray cane plumes; and the exotic fragrance of various flowers made these drives most delightful. Equipped with a simple dissecting microscope of my own make, a copy of Grisebach's "Flora of the British West Indies, 1864," Baron Eggers' "Flora of St. Croix and the Virgin Islands," and a few other books, I identified my specimens, so far as I was able, as fast as collected. My small number of driers limited the rapidity of collecting, while the great humidity and saltness of the air at times made the preserving of specimens a trying task. When once dry it became imperative to immediately put away the specimens in tight cases, for in a few hours, if left lying in the sheets, they would absorb moisture from the air and necessitate again drying. Many of the specimens changed color in drying. *Ipomœa Nil* with blue flowers turned pink, while the flowers of *Melochia tomentosa*, L., which were pink, turned blue when dried. Specimens of *Bryophyllum* grew while in press and had to be baked in a hot oven before they could be successfully checked and preserved. The specimens of the *Hemionitis palmata*, L., when gathered, were completely dried up on the scorched rocky hillside where they grew, but after soaking in water they became quite fresh and were easily pressed.

East of Bassin the island is for the most part either abandoned or given up to grazing, and many of the roads being little used, travel is difficult. The same is true of the north coast beyond Salt River. The massive ruins of old estate mansions and sugar factories tell an eloquent story of former prosperity and wealth. Hundreds of acres in Cotton Valley, east of Bassin, which in the '60's were covered with cotton and cane, are now desolate under a growth of prickly pear, crotons, lantanas, and other weeds. The reclaiming of the lands is a difficult process, but the long period of rest has doubtless made them once more capable of yielding large returns. The forests that once covered the hills of the east end have disappeared and the young trees which would naturally spring up are injured by the goats, so that no forests are likely to exist there. The effect of this forest disappearance on the rainfall has been marked. Some of the guts (small streams) near Bassin that were perennial fifty years ago are now dry during the greater part of the year.

Nearly every day of my stay I made excursions, mostly by carriage, penetrating to all parts of the island. Some of the more notable of those trips were as follows: On January 31 I visited the estate of Canaan, where the hospitable owner spent the day with me in the exploration of Mt. Eagle, the highest point on the island. In places the soil was shallow and great broken rocks and dense growths made progress difficult. Large patches of Guinea grass were noted extending almost to the summit. The view from the top is one of unsurpassed beauty and commands the whole island. The forest of the mountain was quite dense in places, while its north side was so precipitous that it seemed to be almost sheer to the ocean. Several productive trips were made to Crequis, a lovely narrow valley with a perennial gut that keeps the spot a mass of verdure. Here ferns were abundant and here I saw, for the only time, a specimen of the Silk Cotton Tree, or Jumbee Tree (*Eriodrendron*), in bloom, but it was impossible to obtain any of the flowers as they were entirely out of reach. These trees grow to immense size with very thick limbs, the one at Crequis having been a rendezvous for years of the Obeah worshipers and of picknickers. The drive from the mouth of the valley, which begins about one-half mile east of Williams' estate and extends for a mile or more toward Mt. Washington, is one of the attractions of the island.

Judith's Fancy, along the east coast where I visited frequently, is a favorite picnic-ground for Bassin people. Here the black basaltic cliffs perhaps thirty feet high, which form the coast, abruptly terminate, and stretching to the northward is a long strip of sandy beach with shoal water. Just back of the beach is low swamp land drained by a little sluggish gut.

The drive around the Salt River headlands, far along the north side, is grand. The road runs for a distance along the edge of a cliff that drops almost perpendicularly one hundred feet or more to the sea. It was on this road that my mother and I struck into an abandoned road that was so narrow that the carriage could barely press through the dense growth, but after a hard climb we found ourselves on the top of a range of hills with Canaan at our feet. Our adventure was witnessed in amazement by the laborers in the fields.

At another time, penetrating still farther westward on the north side, we ascended six hundred feet by a steep roadway that taxed our energies to the utmost. It was at the top of this ascent that I found the only specimen of *Byrsonima coriacea.* On this occasion we drove for miles without seeing a human being, and the deer, which are quite abundant, bounded across our path. Along the rocky ledges grew an abundance of *Baccharis Vahlii.*

The drive around the south side was of a totally different character, comparatively level, with here and there ledges of limestone where was to be seen growing an abundance of cacti and crotons. On these limestone ledges *Croton discolor* was found Along a flat stretch was a pasture thickly dotted with specimens of the brilliant *Cassia polyphylla*, a species seen nowhere else. In dry thickets grew abundantly *Aloe vulgaris*, and along the road, in shallow sandy soil, was found a single clump of *Andropogon Wrightii.*

At Midland station a swampy field of black muck soil was thickly covered with *Sanseviera Guineensis*, *Croton betulinus* and *Wedelia buphthalmoides.* Along a pile of stonework grew *Cereus triangularis* and *Passiflora suberosa*, while along the sandy roadsides grew *Plantago major tropica.*

The drives out toward the east end of the island were frequent, varying in length. Once we penetrated over an unused road far east, probably within two miles or less of the end of the island. Here we crossed over to the south side, intending to return by the road there, but from a hunter we met we learned that the road was impassable, as the sea washed over it at a certain point. I followed up the south road till it was lost in undergrowth, finding a large patch of *Tribulus cistoides* at the farthest point, near Madam Cartys. The road to West End was very productive and a number of trips were made. A day was spent at Little La Grange and two visits made to Spring Gardens.

In August, '96; I packed my specimens, numbering about six thousand, in lined boxes and proceeded to St. Thomas by the schooner "Dagmar," which carries mail and passengers between the islands. Here I was compelled to wait ten days while the steamer "Madiana" took on the cargo of a condemned vessel. While I did not make any collections here, I made some interesting trips, one of which was to the top of the mountain just back of Charlotte Amalia, where I found a patch several acres in extent covered with *Mimosa pudica.* I tried a number of experiments to test the sensitiveness in this species and the speed of shock transmission. So nearly as I could ascertain, a slight tap on the stem near the ground instantly collapsed the whole plant. With my finger I traced my name in the leafy mass, the collapsed plants causing the characters to stand out clearly against the background of those untouched.

On September 5 we left St. Thomas, touched at St. Croix and reached New York after being detained four days in quarantine. I reached Oberlin September 21, and immediately began to label and distribute my sets. The collecting was carried on in St. Croix after I left by my two young brothers, under my mother's supervision. When they returned to the United States in 1897 they brought with them about two thousand specimens, among them being a number of species that I had not obtained in my collecting.

Thus far the collections have been disposed of to the following institutions: Field Columbian Museum, Chicago, original set (about 750 specimens); St. Louis Bot. Gardens; U. S. National Museum, Washington, D. C.; Royal Botanical Museum, Berlin, Germany; Royal Botanical Gardens, Edinburgh, Scotland; Gray Herbarium, Cambridge, Mass.; Columbia University, New York; Oberlin College, Oberlin, Ohio.

I have been greatly assisted in my work by the members of my family and by Rev. Wolters of Midland, Mr. Lawaetz of Little La Grange, Mr. Frank Lindquist of Bassin, Rev. A. B. Romig of West End, and many others. In St. Thomas, Rev. Greider was my host. In the preparation of my notes and manuscript I have had the tireless assistance of my wife.

THE LIST.

As noted above, this list has been arranged upon the basis of the species reported from St. Croix in Baron Eggers' "Flora of St. Croix and the Virgin Islands," published in 1879. The species not in Baron Eggers' work are printed here in **black faced type**; those that are found in both the Ricksecker collections and Baron Eggers' list appear in SMALL CAPITALS; those in Baron Eggers' list not appearing in the Ricksecker collections are inclosed in brackets [ ].

Under each species the collecting numbers of Mr. A. E. Ricksecker's plants appear in parentheses (267) without other designation, while those of Mrs. Ricksecker are designated (Mrs. R. 267). The number after the species enclosed in brackets and following Baron Eggers' name refers to the consecutive numbering of the species in his list.

The Rickseckerian collections contain a large number of plants of cultivation, but as these so often become in time adventive or escape to wide localities, it is considered advisable to include them in the list.

SUMMARY OF THE FLORA.

New in St. Croix lit. Crypt.,	37	
New in St. Croix lit. Phan. and Pterid.,	80	
Eggers' pl. re-reported,	556	
Eggers' pl. not duplicated	339	
Total Flora Crypt., ex-Ferns,		37
Total Flora Anth. Pterid.,		992
St. Croix Flora,		1,029

CATALOGUE.

Euthallophyta.*

PERONOSPORACEÆ.

1. **Albugo tragopogonis** (Pers.) S.F.Gray.
Cystopus Pers. On leaves and stems of Ipomœa Pes-capræ, beach at Judith's Fancy. Nov. (Fungi 3).

PERISPORACEÆ.

2. **Asterina colubrinæ** E.& Kels.*
On Colubrina reclinata, Signal Hill, Bassin. Apr. (Fungi 26).

DOTHIDACEÆ.

3. **Phyllachora graminis** (Pers.) Fckl.
On Orthopogon setarius Spr., Mt. Eagle, 1155 ft. Jan. (Fungi 17).

MYCOSPHÆRELLACEÆ.

4. **Guignardia** sp.
On Cissampelos Pareira, Signal Hill, 850 ft., Bassin. Feb. (Fungi 22). Distributed under the herbarium name: *Læstadia Rickseckeri.*

PLEOSPORACEÆ.

5. **Physalospora** sp.
On Piper Sieberi, Mt. Eagle, 1155 ft. Jan. (Fungi 18). Distributed under the herbarium name: *P. immorata.*

CLYPEOSPHÆRIACEÆ.

6. **Hypospila cordiana** E.& Kels.*
On leaves of Cordia Collococca. Abundant on the banks of a shady gut near Bassin. Feb. (Fungi 25).

Basidophyta.

MELAMSPORACEÆ.

7. **Coleosporium Ipomœæ** (Sch.) Bur.
On Ipomœa coccinea from roadsides near Bassin. Jan. (Fungi 9).

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* The fungi were determined by Mr. J. B. Ellis and Mr. F. D. Kelsey, the new species being published in Bull. Torr. Club, 1897 : 207.

PUCCINIACEÆ.

8. **Uromyces Howei** Pk.

On Gonolobus maritimus, from roadsides at the east end of the island. Dec. (Fungi 14).

9. **Puccinia vernoniæ** (Cke.) Grev.

On Vernonia sp. Dry thicket on top of Signal Hill, Bassin. Feb. (Fungi 21).

10. **Puccinia spermacocis** B.& C.

On Spermacoce tenuior in yards at Bassin. Jan. (Fungi 15.) On Borreria parviflora, same locality. (Fungi 7.)

11. **Puccinia menthæ** Pers.

On Salvia occidentalis, in yards at Bassin. Jan. (Fungi 10).

12. **Puccinia heterospora** B.& C.

On Abutilon periplocifolium, at the east end of the island. Feb. (Fungi 19.) On leaves of Sida sp. Jan. (Fungi 6). On Sida supina glabra, in yard at Bassin. Jan. (Fungi 12). On Metastelma Schlechtendalii, east end of the island. Dec. (Fungi 13.)

13. **Puccinia opulenta** Speg.

Aecidium on Ipomœa triloba, along roadside at Bassin. Feb. (Fungi 24).

14. **Puccinia convolvuli** (Pers.) Cast.

On Convolvulus nodiflorus at Signal Hill, Bassin, 800 ft. Feb. (Fungi 20).

15. **Uredo commelinacea** E.& Kels.*

On leaves af Commelina elegans, in the yard at Bassin. Jan. (Fungi 5).

16. **Uredo gouanæ** E.& Kels.*

On leaves of Gouania Domingensis, banks of dry gut near Bassin. Jan. (Fungi 11).

17. **Aecidiella triumfettæ** E.& Kels.

Rare on Triumfetta sp. Cemetery at Bassin. Feb. (Fungi 23).

USTILAGINACEÆ.

18. **Schroeteria Cissi** (de C.) de Toni.

Reverting leaves of Cissus acida growing along roads at Cane Garden. May (406), (Mrs. R. 380). Also very common near Coakley Bay and in dry situations on the south side of the island.

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*The fungi were determined by Mr. J. B. Ellis and Mr. F. D. Kelsey, the new species being published in Bull. Torr. Club, 1897: 207.

Hymenophyta.

HYMENOMYCETACEÆ.

19. **Polystictus sanguineus** (Linn.) Mey.
Common on dead logs and stumps near Bassin. Oct. (Fungi 1).

NIDULARIACEÆ.

20. **Cyathus Pœphegii** Tul.
On manure and wet ground at The Grange. Jan. (Fungi 8).

Chlorophyta.*

CHÆTOPHORACEÆ.

21. **Terentepohlia rigidula**
On bark of Coccoloba uvifera, along low beaches at Big Princess. Oct. (Fungi 2). Occurs in large red patches on tree trunks, turns green in drying.

CAULERPACEÆ.

22. **Caulerpa clanifera** (Turn.) C.Ag.
Floating in Bassin harbor. (Alg. 9.)

23. **Caulerpa plumaris** C.Ag.
Along the north side coast. (Alg. 2.)

CODIACEÆ.

24. **Codium tomentosum** Stach.
Floating in Bassin harbor. (Alg. 10.)

25. **Pencillus capitatus** Lamk.
Upright in sand, in shallow water, north beach. (Alg. 15.)

26. **Udotea flabellata** Lamx.
Upright in water of north beach. (Alg. 14.)

FUCACEÆ.

27. **Sargassum ludigerum** (Linn.)
Floating in Bassin harbor. (Alg. 5.)

DICTYOTACEÆ.

28. **Dictyota dentata** Lamx.
Bassin harbor. (Alg. 6.)

29. **Dictyota ciliata** J.Ag.
Bassin harbor. (Alg. 7.)

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*The species in this group were kindly determined by Prof. W. G. Farlow.

30. **Padina pavonia** (L.) Gail.
On submerged rocks of the beach at Judith's Fancy. (Alg. 16.)

31. **Dilophus alternans** J.Ag.
Floating in Bassin harbor. (Alg. 4.)

CHÆTANGIACEÆ.

32. **Galaxaura fragilis** Lamx.
Beaches. (Alg. 12.)

RHODOPHYLLIDACEÆ.

33. **Agardhiella tenera** (J.Ag.) Schm.
Floating in Bassin harbor. (Alg. 17.)

SPHÆROCOCCACEÆ.

34. **Hypnea musciformis** (Wulf) Lamx.
Along the coast. (Alg. 1.) Bassin harbor. (Alg. 11.)

RHODOMELACEÆ.

35. **Bryothamnion Seaforthii** (Turn.) Kuetz.
Forma, prox B. triangulare. Floating in Bassin harbor. (Alg. 3.)

36. **Laurencia obtusa** (Huds.) Lamx.
Bassin harbor. (Alg. 13.)

37. **Acanthophora muscoides**
Bassin harbor. (Alg. 8.)

LYCOPODIACEÆ.

38. [Psilotum triquetrum Sw. Eggers Fl. 979.]

Pteridophyta.

POLYPODIACEÆ.

39. [Aspidium invisum Sw. Eggers Fl. 1003.]

40. [Aspidium patens Sw. Eggers Fl. 1001.]

41. ASPIDIUM MOLLE (Jacq.) Sw.
Polypodium Jacq. Fairly abundant in rocky woods in the Crequis valley. April (355). Cultivated at Bassin. March (Mrs. R. 259). Eggers Fl. 1002.

42. **Nephrolepis exaltata** (L.) Schott.
Aspidium Linn. Cultivated at Bassin, where it is called "Princess' Feather." July (g). Cultivated at Midland. Feb. (Mrs. R. 170).

43. **Nephrolepis acuta** (Schk.) Presl.
Aspidium Schk. Found growing in the crotch of a tree at Morning Star. Feb. (No num.).

44. BLECHNUM OCCIDENTALE Linn.
Crequis, on steep rocky banks under sparse shrubbery, abundant where found. March (Mrs. R. 248), Apr. (354). Eggers Fl. 992.

45. GYMNOGRAMMA CALOMELANOS (L.) Kaul.
Acrostichum Linn. Along the rocky bed of a stream, at Big Fountain. June (458). On the damp walls of a ruined sugar mill at Big Fountain. Feb. (Mrs. R. 161). A form grows at Spring Garden with larger and thinner fronds, 1–1.5m. long. Eggers Fl. 995.

46. GYMNOGRAMMA CALOMELANOS PUMILA Egg.
Specimens apparently grading into the typical form as collected at Big Fountain were gathered on the walls of a ruined sugar mill at Big Princess in March. (337.) Eggers Fl. 995.

47. GYMNOGRAMMA SULPHUREA Desv.
Cultivated at Bassin. July (no num.), and Feb. (Mrs. R. 169).

48. HEMIONITIS PALMATA Linn.
Dry, rocky soil at Eliza's Retreat. July (485); June (Mrs. R. 390). The specimens when collected were completely dried up by the drouth, but regained full vigor after twenty-four hours' soaking in water. Rare and very local.

49. [Cheilanthes microphylla Sw. Eggers Fl. 987.]

50. **Adiantum foliosum** Linn.
Cultivated at Bassin. July (no num.).

51. ADIANTUM FRAGILE Sw.
On rocks near a gut at Crequis. April (353). Also noted at Spring Garden. Eggers Fl. 986.

52. ADIANTUM TENERUM Sw.
On an old stone wall, in open woods at Spring Garden. July (472). Eggers Fl. 985.

53. ADIANTUM VILLOSUM Linn.
Canaan. March (Mrs. R. 277). Eggers Fl. 982.

54. PTERIS LONGIFOLIA Linn.
On the walls of a sugar boiling-house at Lebanon Hill. March (Mrs. R. 214). Eggers Fl. 988.

55. [Tænitis lanceolata R.Br. Eggers Fl. 990.]

56. [Polypodium aureum L. Eggers Fl. 1006.]

57. [Polypodium crenatum Sw. Eggers Fl. 1005.]

58. [Polypodium incanum Sw. Eggers Fl. 1009.]

59. [Polypodium incisum Sw. Eggers Fl. 1008.]

60. POLYPODIUM PHYLLITIDIS Linn.
On rocks, in deep woods on Mt. Eagle, 1050 ft. Jan. (251). Eggers Fl. 1012.

61. [Polypodium piloselloides Linn. Eggers Fl. 1010.]

62. POLYPODIUM SWARTZII Baker.
P. serpens Sw. Abundant. Climbing shrubs and trees in forest on Signal Hill, 850 ft. Feb. (264). Eggers Fl. 1011.

63. [Polypodium tetragonum Sw. Eggers Fl. 1004.]

64. ACROSTICHUM AUREUM Linn.
Chrysodium vulgare Fee. In water near a roadside at Jealousy Gut. Local but abundant. June (417). Eggers Fl. 993.

Anthophyta.

TYPHACEÆ.

65. TYPHA DOMINGENSIS (Pers.) Kth.
T. angustifolia Domengensis Pers. Quite common in rivulets at Doily Hill. March (304), and at Jealousy Gut. (Mrs. R. 254.) Also noted in a gut at Catharine's Rest. The name "Cat Tail" is applied here as in the United States. Eggers Fl. 826.

POTAMOGETONACEÆ.

66. [Cymodocea manatorum Asch. Eggers Fl. 810.]

67. [Ruppia rostellata Koch. Eggers Fl. 813.]

ALISMACEÆ.

68. ECHINODORUS CORDIFOLIUS (Linn.) Griseb.
Alisma cordifolia Linn., *E. rostratus* Engelm. Uncommon. In running stream at Catharine's Rest Gut. Feb. (275). In water near King's Road at King's Hill Gut. March (Mrs. R. 255). Eggers Fl. 808.

HYDROCHARITACEÆ.

69. [Thalassia testudinum Soland. Eggers Fl. 809.]

GRAMINEÆ.

70. COIX LACHRYMA-JOBI Linn.
"Job's Tears." Cultivated at Bassin, for ornamental purposes. Oct. (Mrs. R. 13). Eggers Fl. p. 106.

71. SACCHARUM OFFICINARUM Linn.
"Cane." "Sugar Cane." Several varieties are cultivated on the island. Bassin, Dec. (Mrs. R. 14). Eggers Fl. 895.

72. SORGHUM VULGARE Pers.
"Guinea Corn." Cultivated at Bassin, May (no num.); and at Judith's Fancy, Feb. (Mrs. R. 111). Eggers Fl. 894.

73. ANDROPOGON SCHŒNANTHUS Linn.
"Lemon Grass." "Sweet-scented Grass." Cultivated at Canaan. June (xx). The roots are used for scenting clothing and linens in chests and drawers. Eggers Fl. p. 106.

74. **Andropogon Wrightii** Hackel.
Local at Corn Hill, where it grows in tufts in sandy soil. Jan. (209). This appears to be the first mention of this species east of the Mexican boundary of Texas.

75. [Andropogon saccharoides Linn. Eggers Fl. 892.
It is quite possible that this refers to the preceding species.]

76. ANTHEPHORA ELEGANS Schreb.
A. villosa Spr. In wet places, scarce, along east end road. Feb. (253). Eggers Fl. 889.

77. NAZIA ALIENA (Spr.) Scribn.
Lappago aliena Spr., *Tragus occidentalis* Nees. The synonomy given by Kuntze under Nazia racemosa (Linn.), and by various authors, refers back to Cenchrus racemosus Linn. Sp Pl., 1049, a different form from Mediterranean Europe and western Asia.
Sandy ditches and roadsides on the south side of the island. May (390), (Mrs. R. 381). Eggers Fl. 891.

78. ERIOCHLOA PUNCTATA (L.) Hamilt.
Milium Linn. Growing in the water of a roadside ditch near St. Johns Estate; uncommon. July (467). Eggers Fl. 871.

79. [Paspalum cæspitosum Flügge. Eggers Fl. 862.]

80. PASPALUM COMPRESSUM (Sw.) Nees.
Milium Linn. *Paspalum platycaule* Poir. Common in wet places in pastures. Bassin, Nov. (56); June (Mrs. R. 394). Eggers Fl. 857.

81. PASPALUM CONJUGATUM Berg.
P. ciliatum Lam. *non* H.B.K. Common in wet ditches along roads. Bassin, June (223). Eggers Fl. 858.

82. [Paspalum distichum Linn. Eggers Fl. 860.]

83. PASPALUM VAGINATUM Sw.
In a wet sandy ditch at Corn Hill. June (433). Eggers Fl. 860.

84. **Paspalum fimbriatum** H.B.K.
Roadsides, frequent. Judith's Fancy, Jan. (238).

85. **Paspalum glabrum** Lam. in Poir.
Growing 1–1.5 m. high in a sandy ditch on the south side of the island, June (434).

86. [Paspalum plicatum Mx. Eggers Fl. 864.]

87. [Paspalum virgatum Linn. Eggers Fl. 865.]

88. PANICUM BARBINODE Trin.
P. molle Sw. Abundant along dry sandy roads at Midland. Feb. (300). Eggers Fl. 879.

89. PANICUM COLONUM Linn.
Common in wet situations near Bassin. Nov. (106), Jan. (Mrs. R. 31). Eggers Fl. 876.

90. [Panicum diffusum Sw. Eggers Fl. 880.]

91. PANICUM DIVARICATUM Linn.
P. bambusoides Hamilt. Ascending among the bushes along streams near Canaan. Feb. (257), June (Mrs. R. 400b). Eggers Fl. 882.

92. PANICUM FUSCUM Sw.
Abundant in dry, rocky soil along roads beyond Salt River. March (317). Eggers Fl. 878.

93. [Panicum fuscum fasciculatum Sw. Eggers Fl. 878.]

94. [Panicum glutinosum Sw. Eggers Fl. 883.]

95. **Panicum grossarium** Linn.
In the Bassin Yard. Nov. (66). On Lebanon Hill. May (Mrs. R. 384).

96. PANICUM LATIFOLIUM Linn.
P. glutinosum Lam. *non* Sw., *P. divaricatum pubescens* Griseb. Climbing 2–3m. in the thick woods of Mt. Eagle at 1100 ft, where the stem becomes very thick and cane-like. Jan. (289). Eggers Fl. 882.

97. PANICUM MAXIMUM Jacq.
P. jumetorum Pers. "Guinea Grass." Cultivated as the main forage plant for cattle, and yields several hay crops a year. Also frequently escaping in all open situations. The grass appears to thrive especially well under Lebbek trees; this is particularly noticeable in dry seasons. Fields at Bassin. Jan. (200), June (Mrs. R. 413). Eggers Fl. 881.

98. PANICUM PASPALOIDES Pers.
Stems decumbent 1m. in the water of a lagoon ditch at the east end of the island. Jan. (212). Eggers Fl. 874.

99. **Panicum plantagineum** Nees.
Infrequent and local, in Bassin Yard. June (410).

100. PANICUM PROSTRATUM Lam.
P. cæspitosum Sw., *P. procumbens* Nees. In the light soil of a garden at Bassin. Nov. (77). Eggers Fl. 877.

101. [Panicum prostratum pilosa Egg. Eggers Fl. 877.]

102. SYNTHERISMA INSULARIS (Linn.) *comb. nov.*
Andropogon Linn., *Panicum* Mey., *Tricholæna* Griseb. The glumes and fruits of this species plainly place it in the genus Syntherisma of Walter.

A common grass in dry pastures and along roads near Bassin, where it is known as "Bitter grass" Dec. (142), May (Mrs. R. 396). Eggers Fl. 890.

103. SYNTHERISMA SANGUINALIS (Lk.) Dulac.
Panicum Linn., *Digitaria marginata* Link. In clumps on the sandy beach of the north side of the island. June (457). Eggers Fl. 869.

104. SYNTHERISMA SETIGERA (Desv.) Nash.
Digitaria Desv. Common in dry yards and along walks and roads, Bassin. Nov. (45), May (Mrs. R. 392). Eggers Fl. 870.

105. OPLISMENUS HIRTELLUS (L.) R.&S.
O. setarius (Spr.) R.&S., *Orthopogon* Spr. Rich soil in woods on Mt. Eagle at 1100 ft. Uncommon. Jan. (250). Eggers Fl. 873.

106. CHÆTOCHLOA CAUDATA (Lam.) *comb. nov.*
Panicum caudatum Lam., *Setaria setosa caudata* R.&S. In tufts in sandy soil at New Fort, Bassin. Nov. (67). Eggers Fl. 887.

107. CHÆTOCHLOA GLAUCA (Linn.) Scribn.
Panicum glaucum Linn., *Setaria glauca* Beauv., *Chamæraphis glauca* Ktze., *Ixophorus glaucus* Nash. Local, along roads. Golden Rock, Jan. (243); Lebanon Hill, May (Mrs. R. 383). Eggers Fl. 886.

108. CHÆTOCHLOA SETOSA (Sw.) Scribn.
Panicum setosum Sw., *Setaria setosa* P.Br. Occasionally seen in rocky, dry places in thickets and along roads. Bassin, May (z), at the east end of the island, June (Mrs. R. 407). Eggers Fl. 887.

109. [Cenchrus echinatus Linn. Eggers Fl. 888.]

110. CENCHRUS VIRIDIS Spr.
"Bur Grass." Common in dry places. Bassin Yard, June (Mrs. R. 443), (124). Eggers Fl. 888.

111. STENOTAPHRUM SECUNDUM (Walt.) Ktze.
S. Americanum Schrk. In muddy places. In a thicket near Golden Rock, Nov. (105). June (Mrs. R. 415) at King's Hill Gut. Also seen near Salt River. Eggers Fl. 872.

112. PHARUS GLABER H.B.K.
P. lancifolius Hamilt. In rich mould along the shady banks of a creek at Spring Garden. July (480). Eggers Fl. 846.

113. ARISTIDA STRICTA Michx.
A. dispersa Trin. In thickets, uncommon, at New Point, Bassin. Nov. (64). Eggers Fl. 844.

114. **Sporobolus Domingensis** (Trin.) R.Br.
Vilfa Trin., *Agrostis* Schult. Abundant on the black, muddy shores of a brackish lagoon at the east end of the island. Feb. (279).

115. SPOROBOLUS INDICUS (Linn.) R.Br.
Agrostis Linn. Common in dry, sandy and gravelly situations in Bassin yard. Nov. (71), May (Mrs. R. 391). Eggers Fl. 843.

116. [Sporobolus littoralis Kth. Eggers Fl. 842.]

117. **Sporobolus minutiflorus** Link.
Infrequent, in sandy and gravelly places in Bassin yard. The roots are tuber-bearing and odorous. Jan. (290). Edges of gravelly walks, Bassin. Feb. (Mrs. R. 116).

118. SPOROBOLUS VIRGINICUS (Linn.) Kunth.
Agrostis Linn. In loose sand on lagoon and sea beaches at the east end and at Judith's Fancy. May (408), June (Mrs. R. 408). Eggers Fl. 841.

119. CYNODON DACTYLON (Linn.) Pers.
Panicum Linn. Common in dry places on King's Hill, Feb. (526); and in a pasture at Bassin Yard. June (Mrs. R. 393). Eggers Fl. 856.

120. CHLORIS CILIATA Sw.
Common in dry situations at Bassin Yard. Nov. (42), May (Mrs. R. 395). Eggers Fl. 853.

121. [Chloris eleusinoides Griseb. Eggers Fl. 851.]

122. CHLORIS RADIATA Sw.
Common along roads at Bassin Yard. Nov. (44). Eggers Fl. 852.

123. **Bouteloua litigosa** Lag.
Aristida Americana Sw. Seen only at Bassin Yard. Nov. (78).

124. ELEUSINE INDICA (Linn.) Gærtn.
Cynosurus Linn. Common in dry places, Bassin Yard. Nov. (43), Sept. (Mrs. R. 3). Eggers Fl. 855.

125. **Leptochloa fascicularis** (Lam.) A.Gray.
Festuca Lam., *Diplachne* Beauv. Growing in the water of a ditch at St. John's Estate. March (306).

126. [Leptochloa mucronata Kth. Eggers Fl. 849.]

127. LEPTOCHLOA VIRGATA (Linn.) Beauv.
Cynosurus Linn. Local; found only in light, wet sandy soil at the east foot of King's Hill. Feb. (258). Eggers Fl. 850.

128. [Leptochloa virgata gracilis Nees. Eggers Fl. 850.]

129. [Leptochloa virgata multiflora Egg. Eggers Fl. 850.]

130. DACTYLOCTENIUM AEGYPTIACUM (Linn.) Mill.
Cynosurus Linn., *Eleusine* Pers. Common along roadsides and in Bassin Yard. Nov. (46). Eggers Fl. 854.

131. ERAGROSTIS CILIARIS (Linn.) Link.
Poa Linn. In yards and between the bricks of pavements at Bassin Yard. Nov. (33), Feb. (Mrs. R. 148). Eggers Fl. 839.

132. ERAGROSTIS MINOR Host.
Dry sandy soil at Corn Hill. Jan. (221). Eggers Fl. 839.

133. **Eragrostis pilosa** Beauv.
Along roadsides and in dry places at Bassin. June (b). Also at Catharine's Rest. Jan. (222).

134. BAMBUSA VULGARIS Schrad.
Growing in water at Jealousy Gut. March (Mrs. R. 253); not in flower. Eggers Fl. 837.

CYPERACEÆ. (See Suppl.)

135. KYLLINGA BREVIFOLIA. Rottb.
K. pumila Rich., *K. monocephala* Thumb. Very local and rare. In low wet ground at Spring Garden. July (479). Eggers Fl. 917.

136. [Kyllinga filiformis Sw. Eggers Fl. 914.]

137. [Kyllinga monocephala Rottb. Eggers Fl. 916.]

138. **Kyllinga pungens** Link.
K. obtusata Presl. At Midland. March (Mrs. R. 212).

139. JUNCELLUS LÆVIGATUS (Linn.) Clarke.
Cyperus Linn. Forming thick patches in mud and water of brackish lagoons, Bassin, Nov. (54). East end, March (Mrs. R. 282). Eggers Fl. 897.

140. [Juncellus (Cyperus) lævigatus albidus. Eggers Fl. 987.]

141. [Cyperus articulatus Linn. Eggers Fl. 903.]

142. **Cyperus Brizæus** Vahl.
In sand near the water's edge of Lime Tree Bay. March (334).

143. [Cyperus brunneus Sw. Eggers Fl. 905.]

144. CYPERUS CAPILLARIS (Sw.).
Schœnus Sw., *Mariscus* Vahl. In sandy soil near the sea at New Fort. Nov. (69). Eggers Fl. 914.

145. [Cyperus confertus Sw. Eggers Fl. 899.]

146. CYPERUS EGGERSII Bœck.
Torulinium Cke. Growing with grasses among rocks on the north slope of Mount Eagle, at 1100 ft. Jan. (x). Eggers Fl. 910, as *C. odoratus.*

147. CYPERUS ELEGANS Linn.
Cyperus viscosus Sw. In the mud and water of a lagoon at Bassin. Nov. (59). Eggers Fl. 901.

148. [Cyperus filiformis Sw. Eggers Fl. 908.]

149. **Cyperus flavus** (Vahl.) Nees.
Mariscus Vahl., *Cyperus flavomariscus* Griseb., *non C. flavus* Presl. Scattered in the grass of a pasture, not gregarious; root odorous. Bassin. July (483).

150. CYPERUS LIGULARIS Linn.
Mariscus rufus H.B.K. In muddy places along Salt River. May (107). Banks of a fresh-water creek at Golden Rock, Midland. Feb. (Mrs. R. 91). Eggers Fl. 912.

151. **Cyperus Michauxianus** Schult.
Torulinium Cke. Scattered in wet places on Constitution Hill. Dec. (164). And at Golden Rock Gut. June (d).

152. CYPERUS OCHRACEUS Vahl.
Ditches and banks of creeks at Orange Grove. March (308). Also seen at King's Hill; not common; roadsides near Bassin. May (Mrs. R. 455). Eggers Fl. 900.

153. CYPERUS ROTUNDUS Linn.
Common at Bassin Yard. Dec. (159). The small tubers are edible, which gives rise to the local name, "Nut Grass." The leaves have a sweet, meaty taste. Eggers Fl. 904.

154. HELEOCHARIS CAPITATA (Linn) R. Br.
Scirpus Linn. Plants from the muddy borders of a salt lagoon at Bassin, Nov. (55), are erect and have culms 18–26 cm. long, while others from a fresh-water ditch on the St. John Estate. March (315), are low and spreading, with culms only 6–10 cm. Doily Hill. March (Mrs. R. 237). Eggers Fl 918.

155. HELEOCHARIS CELLULOSA Torr.
Abundant in a wet ditch on the St. John Estate. Jan. (210). Not seen elsewhere. Bethlehem Gut. June (Mrs. R. 414). Eggers Fl. 921.

156. **Heleocharis interstincta** (Vahl.) R. Br.
Scirpus Vahl. In a swamp at Jealousy Gut. March (Mrs. R. 252).

157. [Heleocharis nodulosa Schult. Eggers Fl. 919.]

158. **Fimbristylis diphylla** (Retz.) Vahl.
Bethlehem Gut. June (Mrs. R. 416).

159. FIMBRISTYLIS FERRUGINEA (L.) Vahl.
In mud of salt lagoon at Bassin, Nov. (60); Midland, March (Mrs. R. 244) Eggers Fl. 922.

160. **Fimbristylis spadicea** (L.) Vahl.
In marshy soil at Lime Tree Bay. March (Mrs. R. 264).

161. SCLERIA LITHOSPERMA (L.) Sw.
In stony forest on Signal Hill, Bassin. June (440). Eggers Fl. 928.

162. SCLERIA PTEROTA Presl.
Canaan. June (Mrs. R. 400a). In rich sandy loam along the wooded banks of a creek, Lebanon Hill. June (416). Eggers Fl. 926.

ARACEÆ.

163. ANTHURIUM CORDIFOLIUM Kth.
On rocks in open forest on Mt. Eagle, 1100 ft., abundant (no num.). Eggers Fl. 816.

164. [Anthurium Huegelii Schott. Eggers Fl. 814.]

165. CALADIUM BICOLOR Vent. Cultivated at Bassin. Nov. (no num.); Sept. 3 (Mrs. R. 12). Eggers Fl., p. 99.

166. [Xanthosoma atrovirens C.Koch. Eggers Fl. 821.]

167. [Xanthosoma sagittæfolium Sch. Eggers Fl. 822.]

168. [Xanthosoma hastatum. Eggers Fl. 823]

169. **Arum maculatum** L.
Cultivated at Bassin. July (Mrs. R. 441).

LEMNACEÆ.

170. [Lemna minor L Eggers Fl. 825.]

BROMELIACEÆ.

171. BROMELIA PINGUIN L.
Common in dry situations at the east end, and used also for hedges. April (342); March (Mrs. R. 284). Eggers Fl. 947.

172. ANANAS SATIVUS Schult.
Cultivated to some extent but usually allowed to run out. A fine plantation at Little La Grange, on a stony, sandy hillside, yields a fine sweet fruit, yellow within. Aug. (no num.). Eggers Fl., p. 112.

173. [Pitcairnia angustifolia Ait. Eggers Fl. 949.]

174. TILLANDSIA RECURVATA L.
Very common on trees at Bassin, where it is known as "Old Man's Beard." March (Mrs. R. 257), (272). Eggers Fl. 952.

175. TILLANDSIA USNEOIDES L.
Not so common as the previous species. Found only in forests. Signal Hill, Feb. (267); Crequis, June (Mrs. R. 439). Eggers Fl. 953.

176. TILLANDSIA UTRICULATA L.
Very common on trees in isolated localities. It is called "Wild Pine," and grows to a height of from 5 to 6 ft. East end, Feb. (no num.); Crequis, June (Mrs. R. 440). Eggers Fl. 951.

COMMELINACEÆ.

177. COMMELINA NUDIFLORA L.
Grows profusely in rich low soil. Yard at Bassin. May (175), (Mrs. R. 56b). Eggers Fl. 835.

178. COMMELINA VIRGINICA L.
In low sandy loam. Yard at Bassin. May (403); Jan. (Mrs. R. 56a). Eggers Fl. 853.

179. CALLISIA REPENS L.
On shady bank at Recovery Hill. June (Mrs. R. 412). Eggers Fl. 833.

180. RHŒO DISCOLOR (L'Her.) Hance.
Cultivated at the west end of the island. Feb. (Mrs. R. 98). Eggers Fl. 832.

181. ZEBRINA PENDULA (Hort.) Schniz.
Lawn of the yard at Bassin. May (no num.), Feb. (Mrs. R. 141). Eggers Fl. 831.

PONTEDERIACEÆ.

182. **Eichhornia azurea** Kth.
Rare. In still water of a stream at Catherine's Rest. Nov. (99), June (Mrs. R. 19).

LILIACEÆ.

183. ALOE VULGARIS L.
"Sempervive." Grows wild in limestone soils on the south shore. March (309). In pastures at Midland. March (Mrs. R. 209). Eggers Fl. 929.

184. [Allium fistulosum L. Eggers p. 110.]

185. [Yucca gloriosa L. Eggers Fl. 930.]

186. SANSEVIERIA GUINEENSIS Willd.
"Guana Tail." Naturalized in abundance in various localities, especially, however, at Friedensfeld. In a pasture at Bassin. March (341), Feb. (Mrs. R. 187). Eggers Fl. 938.

187. [Smilax Havanensis Willd. Sp. 2, 159. Eggers Fl. 939.]

AMARYLLIDACEÆ.

188. AMARYLLIS TUBISPATHA Ker.
"Snow-drop." Cultivated at Bassin. May to June (no num.). Eggers Fl. 937.

189. ZEPHYRANTHES ROSEA Lindl.
In a garden at Bassin, cultivated. Sept. (Mrs. R. 1). Eggers p. 110.

190. CRINUM ERUBESCENS Ait.
At Högensborg Gut. July (491). Eggers Fl. 935.

191. CRINUM GIGANTEUM Andr.
Cultivated at Bassin. (No num.). Eggers p. 110.

192. **Crinum longiflorum** Herb.
Cultivated at Bassin. July (494). Also, seemingly an escape, near the west end.

193. HYMENOCALLIS CARIBAEA (L.) Herb.
"Spider Lily." Cultivated at Bassin. June (460). Eggers Fl. 934.

194. **Eucharis grandiflora** Pl.&Lind.
"Eucharist Lily." "Passion Lily." Cultivated from New Granada at Bassin (y). Jan. (Mrs. R. 88).

195. HIPPEASTRUM EQUESTRE (Ait.) Herb.
"Red Lily." Common in pastures at Bassin. May (393). In the yard at Bassin. March (Mrs. R. 286). Eggers Fl. 936.

196. AGAVE AMERICANA L.
"Karatá." Employed for hedges and utilized for its fiber. In the yard at Bassin. Feb. (282, Mrs. R. 104). Eggers Fl. 931.

197. [Agave sobolifera Salm-Dyck. Eggers Fl. 932.]

198. FOURCROYA CUBENSIS Haw.
Cultivated in the yard at Bassin. Feb. (298). Eggers Fl. 933.

DIOSCOREACEÆ.

199. [Dioscorea alata L. Eggers Fl. 942.]

200. [Dioscorea altissima L. Eggers Fl. 943.]

IRIDACEÆ.

201. [Cipura plicata Gris. Eggers Fl. 946.]

MUSACEÆ.

202. MUSA PARADISIACA L.
"Fig," the plantain being so-called in St. Croix. Cultivated to some extent in gardens. Feb. (260), Jan. (Mrs. R. 38). Eggers Fl. 955.

203. MUSA SAPIENTUM L.
"Bacuba Fig," the sweet banana, is somewhat cultivated in gardens. Eggers Fl. 956.

ZINGIBERACEÆ.

204. [Curcuma longa L. Cult. Eggers p. 112.]

205. [Alpinia nutans Rat. Cult. Eggers p. 112.]

206. [Renealmia sylvestris Gris. Eggers Fl. 957.]

207. [Zingiber officinalis Rosc. Eggers Fl. 958.]

CANNACEÆ.

208. CANNA INDICA L.

"Indian Shot." Escaped and growing in running water, especially at the eastern end of the island. In ditches at Crequis. July (no num.). At Contentment. Feb. (Mrs. R. 192). Eggers Fl. 959.

209. CANNA LAMBERTI Lindl.

Escaped in places and found growing near running water, Crequis. Aug. (no num.). Eggers Fl. 960.

210. **Canna lutea** Mill.

Escaped in gardens at Bassin. June (no num.).

211. [Canna edulis Ker. Eggers Fl. 961.]

MARANTACEÆ.

212. MARANTA INDICA Tuss.

"Arrowroot." An abundant escape in low rich soils along streams. Flowers white. Cultivated at Big Fountain. June (445). Eggers Fl. 962.

ORCHIDACEÆ.

213. [Epidendrum bifidum Aubl. Eggers Fl. 965.]

214. EPIDENDRUM CILIARE Linn.

Rare, on dead stumps and rocks on Mt. Eagle, 1100 feet; in fruit only. Jan. (no num.). Eggers Fl. 966.

215. [Epidendrum cochleatum L. Eggers Fl. 967.]

PIPERACEÆ. (See Suppl.)

216. PIPER BREDEMEYERI Jacq.

Common along Crequis Valley Gut. June (421). Eggers Fl. 797.

217. PIPER PELTATUM L.

"Monkey's Hand." Along the creek at Big Fountain. June (446). Also at La Grange. Root aromatic. Eggers Fl. 800.

218. PIPER MEDIUM Jacq.

Moist, shady spots in Crequis Valley. April (356). Also on Mt. Eagle. At Bassin. Feb. (Mrs. R. 189). Eggers Fl. 796.

219. PEPEROMIA ACUMINATA Miq.

On rocks in moist, shady places, Crequis Valley. June (422). Eggers Fl. 802.

220. [Peperomia Cubana C.D.C. Eggers Fl. 804.]

221. [Peperomia glabella Dietr. Eggers Fl. 803.]

222. [Peperomia obtusifolia A. Dietr. Eggers Fl. 805.]

223. PEPEROMIA PELLUCIDA (L.) Kth.
Growing on the north brick walls of the house at Bassin. Nov. (120). Also on the walls of the cistern. Feb. (Mrs. R. 122). Eggers Fl. 801.

224. PEPEROMIA POLYSTACHYA Hook.
In rocky soil among underbrush on Signal Hill, 850 ft. June (no num.). Eggers Fl. 807.

CASUARINACEÆ.

225. CASUARINA EQUISETIFOLIA L.
"Spar Wood." Cultivated in the public garden at Bassin. June (Mrs. R 414). Eggers Fl., p. 96.

SALICACEÆ.

226. **Salix, Humboldtiana** Willd.
One tree only known, not yet seen in flower. In running water near Grove Place. June (p).

ULMACEÆ.

227. [Celtis trinervis Lam. Eggers Fl. 771.]

228. [Celtis aculeata Sw. Eggers Fl. 772.]

229. [Celtis aculeata serrata Egg. Eggers Fl. 772.]

230. TREMA MICRANTHA (L.) Engl.
A small tree in a garden at Canaan. June (443, Mrs. R. 399). Eggers Fl. 773. Not seen elsewhere.

MORACEÆ.

231. CHLOROPHORA TINCTORIA (L.) Gaud.
"Fustic." A form with deeply cut leaves. Two trees noted at Jerusalem Estate. July (482). Canaan. (Mrs. R., no num.). Eggers Fl. 782.

232. CECROPIA PELTATA L.
A low spreading tree in forests on the banks of streams, Lebanon Hill Gut. June (449). Eggers Fl. 781.

233. ARTOCARPUS INCISA L.
"Breadfruit." Growing wild along Crequis Gut, fruit not tubercled, edible. July (488). In young fruit at Grove Place, June (450), fruit tubercled. The natives say this is used like 488. Eggers Fl. 780.

234. FICUS CRASSINERVIA Desf.
"India Rubber Tree." Cultivated in the yard at Bassin. June (414). Also noted wild near Mt. Eagle. Eggers Fl. 774.

235. FICUS TRIGONATA L.
In a forest near Crequis. July (no num.). Only one tree seen. Eggers Fl. 775.

236. [Ficus lævigata Vahl. Eggers Fl. 776.]

237. FICUS POPULNEA Willd.
Rather common around lagoons. Roadside at the east end. July (466). In a pasture at Bassin. Feb. (Mrs. R. 190). Eggers Fl. 778.

238. FICUS PEDUNCULATA Ait.
"Fig." "Banyan." Common around dwellings. Pasture at Bassin. Jan. (215). Eggers Fl. 779.

URTICACEÆ.

239. [Urera elata Gris. Eggers Fl. 784.]

240. FLEURYA ÆSTUANS (Jacq.) Gaud.
On walls and camp ground at Little La Grange. June (452). Also seen at Spring Garden. Crequis. June (Mrs. R. 437). Eggers Fl. 783.

241. ADICEA MICROPHYLLA (L.) Ktze.
Very common in sandy spots in gardens. Yard at Bassin. Jan. (193, Mrs. R. 92). Eggers Fl. 786.

242. ADICEA MICROPHYLLA SUCCULENTA (Hook f.)
Pilea succulenta Hook f. Trans. Linn. Soc. 20:1 (1847) non Wedd. in Arch. Mus. Par., 8:256 (1855–6).
On rocks in moist, shady situations at Spring Garden. July (476). Eggers Fl. 786.

243. ADICEA MICROPHYLLA TRIANTHEMOIDES (Liebm.).
Pilea Liebm.
"Artillery Plant." In moist spots in the garden at Bassin. Jan. (Mrs. R. 57). Eggers Fl. 786.

244. **Adicea nummulariæfolia** (Sw.) Ktze.
Running wild on a tub in the yard at Bassin. June (Mrs. R. 411).

LORANTHACEÆ.

245. PHTHIRUSA CARIBÆA Kr.&Urb.
On Acacia Lebbek, which it completely covers and kills, on King's Hill. March (313, Mrs. R. 349). Eggers Fl. 375.

246. [Phoradendron flavens Gris. Eggers Fl. 376.]

247. **Phoradendron Martinicense** (de C.) Gris.
On Bursera gummifera, Signal Hill, not observed elsewhere. March (302).

OLACACEÆ.

248. [Schœpfia arborescens R.&S. Eggers Fl. 158.]

ARISTOLOCHIACEÆ.

249. [Aristolochia trilobata L. Eggers Fl. 793.]

250. ARISTOLOCHIA ANGUICIDA L.
"Adder's Tongue." Rare, in a pasture at Richmond. Feb. (Mrs. R. 85). Eggers Fl. 794.

POLYGONACEÆ. (See Suppl.)

251. COCCOLOBA UVIFERA Jacq.
"Sea Grape." Common along the sea, and occasionally in the interior. Bassin Oct. (17). Eggers Fl. 708.

252. [Coccoloba leoganensis Jacq. Eggers Fl. 709.]

253. [Coccoloba laurifolia Jacq. Eggers Fl. 711.]

254. [Coccoloba diversifolia Jacq. Eggers Fl. 712.]

255. [Coccoloba obtusifolia Jacq. Eggers Fl. 713.]

256. COCCOLOBA CORONATA Jacq.
Signal Hill, Bassin. July (Mrs. R. 448). Eggers Fl. 714.

257. COCCOLOBA BARBADENSIS Jacq.
A straggling shrub on low ground near the coast. Rustup Twist. July (465). Eggers Fl. 714.

258. COCCOLOBA PUNCTATA PARVIFLORA Gris.
A low tree, frequent in rocky places near the coast. Cliffs at Salt River. June (459). Eggers Fl. 714.

259. COCCOLOBA MICROSTACHYA OVALIFOLIA Meissn.
Rocky coast at Rustup Twist. May (Mrs. R. 365). Eggers Fl. 714.

260. COCCOLOBA NIVEA Jacq.
Frequent in rocky situations. North side, Belvidere. June (456). Eggers Fl. 715.

261. ANTIGONON CORDATUM Mart.&Gal.
"Wreath Vine." Cultivated at Bassin. Nov. (88), Jan. (Mrs. R. 16). Eggers Fl., p. 88.

CHENOPODIACEÆ.

262. [Chenopodium ambrosioides L. Eggers Fl. 680.]

263. Chenopodium murale L.
Dry gravelly roadsides, King's Hill. Feb. (284). Eggers Fl. 681.

264. Atriplex cristata Mocq.
Infrequent. On sandy beach at Lime Tree Bay. March (327). Eggers Fl. 682.

265. **Salicornia ambigua** Mx.
Abundant in a salt marsh at Lime Tree Bay. April (365).

266. [Boussingaultia baselloides Kth. Eggers Fl. 683.]

AMARANTACEÆ.

267. [Celosia argentea L. Eggers Fl. 685.]

268. [Celosia nitida Vahl. Eggers Fl. 686.]

269. Kokera paniculata (L.) Kth.
In sandy soils, Judith's Fancy, Nov. (41); West end, Feb. (Mrs. R. 102.) Eggers Fl. 687.

270. [Achyranthes aspera L. Eggers Fl. 688.]

271. [Achyranthes aspera argentea Lam. Eggers Fl. 688.]

272. Achyranthes aspera obtusifolia (Lam.) Gris.
In the yard at Bassin. Nov. (32), Feb. (Mrs. R. 197). Eggers Fl. 688.

273. Gomphrena globosa L.
Cultivated at Bassin. Feb. (Mrs. R. 100). Eggers Fl. 689.

274. Iresine elatior Rich.
Frequent in grass and thickets along roads near Bassin. Nov. (116), Feb. (Mrs. R. 121). Eggers Fl. 690.

275. Lithophila vermiculata (L.) Uline.
In black, wet mucky soil along roads. Catharine's Rest, Feb. (277); Anna's Hope, Jan. (Mrs. R. 18). Eggers Fl. 691.

276. **Lithophila muscoides** Sw.
In dry shallow soil at the top of a bluff at Judith's Fancy. May (402).

277. **Alternanthera paronychioides** St. Hil.
Between the pavement bricks of the yard at Bassin. Nov. (61), Jan. (Mrs. R. 15).

278. [Alternanthera polygonoides R. Br. Eggers Fl. 692.]

279. [Alternanthera achyrantha R. Br. Eggers Fl. 694.]

280. AMARANTUS POLYGONOIDES L.
Roadsides and walks, east end. Feb. (288). West end. June (Mrs. R. 435). Eggers Fl. 695.

281. AMARANTUS SPINOSUS L.
In a field at Midland. Oct. (19). Eggers Fl. 699.

282. [Amarantus paniculatus L. Eggers Fl. 701.]

283. AMARANTUS TRISTIS L.
Sterile red sandy soil at Judith's Fancy. Nov. (109). The yard at Bassin. March (332), Feb. (Mrs. R. 198b). Eggers Fl. 700.

284. [Scleropus amarantoides Schrad. Eggers Fl. 696.]

285. [Euxolus caudatus Mocq. Eggers Fl. 697.]

286. [Euxolus oleraceus Mocq. Eggers Fl. 698.]

BATIDACEÆ.

287. BATIS MARITIMA L.
Local, but abundant in black mud of lagoon at Lime Tree Bay. March (328, Mrs. R. 271). Eggers Fl. 634.

PHYTOLACCACEÆ.

288. [Microtea debilis Sw. Eggers Fl. 676.]

289. RIVINA HUMILIS L.
"Snake Bush." "Pimba Pepper." A common weed in shady places. Yard and pasture at Bassin. Dec. (134), Jan. (Mrs. R. 61). Eggers Fl. 677.

290. VILLAMILLA OCTANDRA (L.) Hook.
East end roadsides. April (343). Doily Hill. April (Mrs. R. 325). The leaves often fall at or before flowering. Eggers Fl. 678.

291. PETIVERIA ALLIACEA L.
"Conger Root" Waste, shady places; common. Has the odor of the North American "Skunk Cabbage." Yards at Bassin. Oct. (27), Feb. (Mrs. R. 132). Eggers Fl. 679.

NYCTAGINACEÆ.

292. MIRABILIS JALAPA L.
"Four O'clock." Escaped to waste places at Bassin. Jan. (201), Feb. (Mrs. R. 115). Eggers Fl. 702.

293. BŒRHAAVIA ERECTA L.
Local; in cane fields at Golden Rock, May (401). Eggers Fl. 703.

294. BŒRHAAVIA PANICULATA Rich.
"Batta Batta." Common in yards, among paving bricks and on walls, Bassin. Oct. (2), Jan (Mrs. R. 60). Eggers Fl. 704.

295. PISONIA ACULEATA L.
Roadsides east of Bassin, near Mt. Welcome. Feb. (296, Mrs. R. 151). Eggers Fl. 705.

296. PISONIA SUBCORDATA Sw.
"Mampoo." Signal Hill, near Bassin, in rocky places. April (368). North side, May (Mrs. R. 371). Eggers Fl. 706.

297. PISONIA INERMIS Jacq.
In rocky places here and there. Salt River Bluffs. May (397). Also seen on the summit of Signal Hill, near Bassin. Eggers Fl. 707.

298. BOUGAINVILLEA SPECTABILIS Willd.
Cultivated in the Public Garden at Bassin. June (Mrs. R. 419). Eggers Fl., p. 87.

AIZOACEÆ.

299. MOLLUGO NUDICAULIS Lam.
On rocky cliffs at Judith's Fancy. Local. Aug. (499). Eggers Fl. 44.

300. SESUVIUM PORTULACASTRUM L.
On the sandy beach at Lime Tree Bay. March and April (324, Mrs. R. 269). Eggers Fl. 51.

301. TRIANTHEMA MONOGYNA L
In wet ditches in stony ground, scarce. Marienhoi. July (471). Eggers Fl. 52.

PORTULACACEÆ.

302. [Talinum triangulare Willd. Eggers Fl. 45.]

303. [Talinum patens Willd. Eggers Fl. 46.]

304. PORTULACA OLERACEA L
Occasionally found in the loose soil of fields and gardens, Bassin. Feb. (294). Eggers Fl. 47.

305. [Portulaca oleracea micrantha. Eggers Fl. 47.]

306. PORTULACA QUADRIFIDA L.
A common weed in gardens. Bassin. Dec. (174). Eggers Fl. 48.

307. PORTULACA PILOSA L.
Found only in one spot on Corn Hill. Jan. (206). Eggers Fl. 49.

308. PORTULACA HALIMOIDES L.
Very common in rocky places. Bassin. May (R.). Eggers Fl. 50.

CARYOPHYLLACEÆ.

309. DRYMARIA CORDATA (L.) Willd.
Wet, stony soil along roads near the gut at Crequis. July (490). Eggers Fl. 41.

NYMPHÆACEÆ.

310. CASTALIA AMPLA Salisb.
In a mud pond at Work and Rest. Nov. (47). Young seeds red, light gray when mature. Pond at Anna's Hope. April (Mrs. R. 320). Eggers Fl. 11.

ANONACEÆ.

311. ANONA MURICATA L.
"Sour Sop." In a pasture thicket near Bassin. March and April (330, Mrs. R. 311). Eggers Fl. 2.

312. [Anona laurifolia Dun. Eggers Fl. 3.]

313. ANONA PALUSTRIS L.
"Monkey Apple" Marshy soil in the gut at Golden Rock. April (347). Eggers Fl. 4.

314. ANONA SQUAMOSA L.
"Sugar Apple." Exists both wild and cultivated, the fruit used for food. Pastures and fields at Bassin April (349, Mrs. R. 303). Eggers Fl. 5.

315. ANONA RETICULATA L.
"Custard Apple." Commonly cultivated for its fruit. West end. June (453, Mrs. R. 434). Eggers Fl. 6.

316. [Oxandra laurifolia Rich. Eggers Fl. 8.]

MENISPERMACEÆ.

317. CISSAMPELOS PAREIRA L.
"Velvet Leaf." Crequis. March (Mrs. R. 249). Eggers Fl. 10.

318. CISSAMPELOS PAREIRA MICROCARPA Gris.
"Velvet Leaf." Climbing over shrubs and young trees in woods. Signal Hill. Dec. (184), June (Mrs. R. 436). Eggers Fl. 10.

LAURACEÆ.

319. [Cinnamomum Zeylanicum Bl. Eggers Fl. 716.]

320. [Phœbe Antillana Meissn. Eggers Fl. 717.]

321. PERSEA PERSEA (L.) Cock.
"Alligator Pear." In cultivation. Big Princess. Feb. and March (305, Mrs. R. 160). Eggers Fl. 718.

322. [Acrodiclidium salicifolium Gris. Eggers Fl. 720.]

323. [Nectandra membranacea Gris. Eggers Fl. 722.]

324. NECTANDRA ANTILLANA deC.
One tree only noted. Parasol Hill; in bud (464). Eggers Fl. 723.

325. [Cassytha Americana L. Eggers Fl. 725.]

PAPAVERACEÆ.

326. ARGEMONE MEXICANA L.
Frequent in dry fields and in cane patches. Bassin. Nov. (101). Princess. Feb. (Mrs. R. 167). Eggers Fl. 12.

CRUCIFERÆ.

327. [Nasturtium officinale R.Br. Eggers Fl. 13.]

328. [Sinapis brassicata L. Eggers Fl. 14.]

329. [Sinapis arvensis L. Eggers Fl. 15.]

330. **Brassica juncea** (L.) Cosson.
Yard at Bassin. March (336); Feb. (Mrs. R. 128).

331. LEPIDIUM VIRGINICUM L.
Infrequent; in dry, sandy soil. King's Hill. March (312). Also seen near Salt River. Yards at Bassin. May (Mrs. R. 357). Eggers Fl. 16.

332. CAKILE ÆQUALIS L'Her.
Mouth of the creek at New Fort. Nov. (68). At Judith's Fancy. April (Mrs. R. 304); Eggers Fl. 17.

CAPPARIDACEÆ.

333. CLEOME PENTAPHYLLA L.
"Massambee." Roadsides near Bassin. April (384). Used in making "callalu," a sort of pot herb. Waste lands near Contentment. Feb. (Mrs. R. 191). Eggers Fl. 18.

334. CLEOME PUNGENS Willd.
"Wild Massambee." Sandy waste grounds, common, especially the dry beds of streams. Yard at Bassin. Nov. (85). At Golden Rock. March (Mrs. R. 219). Eggers Fl. 19.

335. POLANISIA ICOSANDRA (L.) W.&A.
Frequent in rich, sandy soil. In à cane field at The Grange. Jan. (177). Pasture at Bassin. Feb. (Mrs. R. 194). Eggers Fl. 20.

336. **Cleome spinosa** L.
In the yard at Bassin. Nov., 1895 (85 in part. F.C.M. 70398).

337. CAPPARIS GRISEBACHII Eich.
Dry, rocky roadsides at east end. April (381). North side. May (Mrs. R. 366). Eggers Fl. 22.

338. CAPPARIS JAMAICENSIS Jacq.
Rocky roadside on the north side near Salt River. June (454, Mrs. R. 424). Eggers Fl. 23.

339. CAPPARIS CYNOPHALLOPHORA L.
Very common along roads at the eastern end of the island. Pods 4 to 10 inches long, when open displaying the white oily seeds in a brilliant red matrix. Bassin. Feb. to May (261, Mrs. R. 354). Eggers Fl. 24.

340. CAPPARIS FRONDOSA Jacq.
"Rat Bean." East end. Feb. (285). Pasture at Bassin. April (Mrs. R. 374). Eggers Fl. 26.

341. [Morrisonia Americana L. Eggers Fl. 27.]

MORINGACEÆ.

342. MORINGA MORINGA (L).
Guilandina Linn. Very common in cultivation near Bassin. Nov. to Feb. (118, Mrs. R. 78). Eggers Fl. 21.

CRASSULACEÆ.

343. BRYOPHYLLUM PINNATUM (Lam.) S.Kz.
Rocky roadsides and fields near Bassin. Jan. (225, Mrs. R. 76). Eggers Fl. 371.

ROSACEÆ.

344. CHRYSOBALANUS ICACO L.
"Cocoa Plum." On sandy shores and often cultivated for its sweet, astringent, edible fruit. Cane Bay. May (Mrs. R. 353). Eggers Fl. 284.

LEGUMINOSÆ. (See Suppl.)

345. [Inga laurina Willd. Eggers Fl. 283.]

346. PITHECOLOBIUM SAMAN (Willd.) Bth.
"Giant Thibet Tree." Canaan. Jan. (283). Also seen near west end. Morning Star. May (Mrs. R. 352). Eggers Fl. 281.

347. PITHECOLOBIUM UNGUIS-CATI (L.) Bth.
"Cat Claw." "Crab Pickle." Roadsides at east end. Dec. (171). Pastures at Bassin. Sept. (Mrs. R. 9). Eggers Fl. 282.

348. [Pithecolobium unguis-Cati ferfex. Eggers Fl. 282.]

349. ALBIZZIA LEBBEK (Willd.) Bth.
"Thibet Tree." "Woman's Tongue." Naturalized in cultivated areas everywhere. Bassin. March to April (344, Mrs. R. 315). Flowers white, fragrant, turning yellowish. The name, Woman's Tongue, is applied on account of the incessant clatter of the dry pods in the wind. A valuable cabinet wood, dark, hard and taking a high polish. An excellent tree for pastures, as it affords pleasant shade, and the principal forage grass, Panicum maximum, thrives well under it. Eggers Fl. 278

350. [Calliandra purpurea Bth. West. Hb. Havn.]

351. [Acacia Arabica Willd. Eggers Fl. 277.]

352. ACACIA CATECHU (L.) Willd.
In the sandy soil of Crequis Valley, where the rainfall is great. July (489). Eggers Fl. 271.

353. ACACIA FARNESIANA (L.) Willd.
"Cashá." Roadsides and dry stony places, south shore. Jan. (234). Eggers Fl. 276.

354. ACACIA LUTEA (Houst.) Hitch.
Frequent in sandy soil near the beach at the mouth of Salt River. July (486). Not seen elsewhere. Eggers Fl. 274.

355. ACACIA TORTUOSA (L.) Willd.
"Cashá." Common on dry hills and stony roadsides near Mt. Washington. Jan. (240). At Bassin. Jan. (Mrs. R. 34). Eggers Fl. 275.

356. LEUCÆNA GLAUCA (L.) Bth.
"Wild Tamarind." Very common in dry stony places. Roadsides east of Bassin. Dec. and Jan. (178, Mrs. R. 45). Seeds used for necklaces, etc. Eggers Fl. 270.

357. [Mimosa Ceratonia L. Eggers Fl. 269.]

358. MIMOSA PUDICA L.
Sandy fields and roadsides near Mt. Stewart. Aug. (496). Annally Hill. June (Mrs. R. 433). Eggers Fl. 267.

359. DESMANTHUS VIRGATUS (L.) Willd.
In dry grassy localities. In the yard at Bassin. Jan (191, Mrs. R. 58). Eggers Fl. 265.

360. [Desmanthus virgatus strictus Bert. Eggers Fl. 265.]

361. HYMENÆA COURBARIL L.
"Locust." Wild, and cultivated near Bassin. In leaf March 30, in flower Aug. 31 (340), June (Mrs. R. 430). "The pods are filled with a yellow powder which is eaten." Eggers Fl. 260.

362. TAMARINDUS INDICA L.
"Tamarind." Wild, and cultivated near Bassin. May and June (413, Mrs. R. 379). Eggers Fl. 259.

363. BAUHINIA TOMENTOSA L.
"Horse-radish Tree." Cultivated and established as an escape, near Bassin. May to June (411, Mrs. R. 351). Eggers Fl. 261.

364. [Cassia alata L. Eggers Fl. 254.]

365. CASSIA BICAPSULARIS L.
"Stiver-bush." A low shrub or small tree 6 to 10 feet high. In dry waste grounds near Bassin. Nov. (52). Roadsides near Big Princess. Feb. (Mrs. R. 158). Eggers Fl. 251.

366. [Cassia biflora angustisiliqua (Lam.). Eggers Fl. 253.]

367. [Cassia fistula L. Eggers Fl. 248.]

368. CASSIA GRANDIS L.
"Liquorice Tree." Naturalized near Canaan. April (371). Pulp surrounding seeds black and of a liquorice-like flavor. Eggers Fl. 249.

369. [Cassia obtusifolia L. Eggers Fl. 256.]

370. CASSIA OCCIDENTALIS L.
"Stinking Weed." Frequent in waste pasture lands. The seeds are used as a substitute for coffee. Pasture at Bassin. Oct. (21), Jan. (Mrs. R. 66). Eggers Fl. 255.

371. **Cassia polyphylla** Jacq.
In a pasture near Corn Hill. Jan. (204).

372. **Cassia tora** L.
Infrequent, in pastures near Bassin. Nov. (k).

373. CHAMÆCRISTA GLANDULOSA (L.) Greene.
Common in dry, sandy soil along roads near Bassin. Jan. (194). Eggers Fl. 257.

374. CHAMÆCRISTA GLANDULOSA RAMOSA (L.)
Cassia ramosa Linn. Roadsides at Big Princess. Feb. (Mrs. R. 166). Eggers Fl. 257.

375. CHAMÆCRISTA NICTITANS (L.) Moen.
Common in low, grassy places. Yard at Bassin. Nov. (112). Eggers Fl. 258.

376. PARKINSONIA ACULEATA L.
"Horse Bean." In dry, stony places along roads, especially on the south side of the island. Corn Hill. Jan. (218). Anna's Hope. Jan. (Mrs. R. 17). Eggers Fl. 241.

377. HÆMATOXYLON CAMPECHIANUM L.
"Logwood." Abundant in dry places on the south side of the island. Bassin. Jan. (189, Mrs. R. 33). Eggers Fl. 240.

378. POINCIANA REGIA Boj.
"Flame Tree" "Flamboyant." Naturalized and cultivated; pods used for fuel. Bassin. Feb. (291), May (Mrs. R. 389). Eggers Fl. 246.

379. [Cæsalpinia divergens Urb. Eggers Fl. 242.]

380. CÆSALPINIA CRISTA L.
"Grey Nickars." On the sandy beach at Lime Tree Bay. March and April (331, Mrs. R. 265). Judith's Fancy. Aug. and Nov. (500). Eggers Fl. 244.

381. CÆSALPINIA CORIARIA Willd.
Cultivated? Only one tree seen, that at a pasture gate on the south shore. Feb. (273). Eggers Fl. 247.

382. [Cæsalpinia melanosperma Urb. Eggers Fl. 243.]
Guilandina Eggers.

383. CÆSALPINIA PULCHERRIMA (L.) Sw.
"Duldul" or "Dudeldu." Escaped to roadsides and pastures everywhere. Bassin. Jan. (224), Feb. (Mrs. R. 82), May (Mrs. R. 385). Eggers Fl. 245.

384. [Adenanthera pavonina L. Eggers Fl. 263.]

385. [Myrospermum frutescens Jacq. Eggers Fl. 239.]

386. [Sophora tomentosa L. Eggers Fl. 238.]

387. **Crotalaria juncea** L.
Only a few specimens seen, those in a field at Bassin. Jan. (211).

388. CROTALARIA INCANA L.
"Rattle Bush." Roadsides and pastures; common. Bassin. Oct. (15). Jerusalem. March (Mrs. R. 241). Eggers Fl. 188.

389. [Crotalaria latifolia L. Eggers Fl. 187.]

390. CROTALARIA RETUSA L.
"Rattle Box." A common weed in pastures and along roads. Bassin. Oct. (16), Jan. (Mrs. R. 43). Eggers Fl. 186.

391. CROTALARIA VERRUCOSA L.
"Rattle Bush" Common in grassy places. Bassin. Nov. (72), Jan. (Mrs. R. 22). Eggers Fl. 185.

392. INDIGOFERA ANIL L.
"Indigo Bush." Forming dense patches in dry pastures. Bassin. Nov. (126), Jan. (Mrs. R. 68). Eggers Fl. 190.

393. [Indigofera tinctoria L. Eggers Fl. 189.]

394. SABINEA FLORIDA deC.
Escaped or naturalized on the south side of the island. April (Mrs. R. 299). Eggers Fl. 194.

395. CRACCA VILLOSA CINEREA (L.) Ktz.
Prostrate in the beach sands of Judith's Fancy. Nov. (40). Roadside at Bassin. Dec. (139). Midland. Feb. (Mrs. R. 181). Eggers Fl. 191.

396. BENTHAMANTHA CARIBÆA (Jacq.) Ktz.
Common in dry roadside thickets on the south side of the island. May (391). Pastures and dry wooded banks of guts. April (Mrs. R. 308). Eggers Fl. 192.

397. AGATI GRANDIFLORA (L.) Desv.
Cultivated at The Glynn. Feb. (299, Mrs. R. 20). Only one tree seen. Eggers Fl. 197.

398. [Pictetia aculeata Urb. Eggers Fl. 196.]

399. ÆSCHYNOMENE AMERICANA L.
Frequent in rich pastures and shady places. Yard at Bassin. Dec. (133). Eggers Fl. 199.

400. **Æschynomene Americana depila** Millsp.
Frequent in a hill pasture near Bassin. Jan. (Mrs. R. 44).

401. ALYSICARPUS VAGINALIS deC.
Common in dry, gravelly soil. Yards at Bassin. Dec. to Jan. (131, Mrs. R. 59). Eggers Fl. 202.

402. STYLOSANTHES HAMATA (L.) Taub.
A common, diffuse weed of yards and grassy places. Yard at Bassin. Jan. (216, Mrs. R. 47). Eggers Fl. 209.

403. [Stylosanthes viscosa Sw.? Eggers Fl. 210.]

404. [Arachis hypogæa L. Eggers Fl. 211.]

405. **Meibomia axillaris** (Sw.) Ktze.
Along a rocky roadside at Crequis. June (428). Also noted at Big Fountain.

406. MEIBOMIA INCANA (Sw.) Ktze.
A common weed in yards and pastures. Bassin. Oct. (1), Feb. (Mrs. R. 136). Eggers Fl. 204.

407. MEIBOMIA MOLLIS (Vahl.) Ktze.
Frequent in dry soils. Jerusalem. Jan. (198). Specimens with fruits 3 to 4-jointed, as mentioned in Eggers Fl. 208.

408. [Meibomia scorpiurus (Desv.) Ktze. Eggers Fl. 205.]

409. MEIBOMIA SPIRALIS (Sw.) Ktze.
Thickets in dry, loose soil. Bassin. Nov. (117). Eggers Fl. 207.

410. MEIBOMIA TORTUOSA (Sw.) Ktze.
Low, sandy places along roads. Corn Hill (x), Jan. (207). Eggers Fl. 206.

411. MEIBOMIA TRIFLORA PILOSA Ktze.
Dry situations. Yard at Bassin. Jan. (244). Eggers Fl. 203.

412. [Lourea vespertilionis Desv. Eggers Fl. 201.]

413. [Dalbergia Ecastaphyllum (L.) Taub. Eggers Fl. 236.]

414. [Drepanocarpus lunatus Mey. Eggers Fl. 235.]

415. ICHTHYOMETHIA PISCIPULA (L.) Hitch.
"Stink Tree." "Dogwood." Frequent in dry stony places. Rocky shore at Rustup Twist. March (320). South side. April (Mrs. R. 296). Eggers Fl. 234.

416. **Galactia regularis** (L.) B.S.P.
Rocky roadsides on the north side near Rustup Twist. May (Mrs. R. 369).

417. **Galactia tenuiflora** (Willd.) W.& A.
Roadsides at Bassin. Dec. (140). Crevices in brick pavements. Feb. (Mrs. R. 199).

418. VOUACAPOUA AMERICANA Aubl.
"Dog Almond." Abundant in rich soil, Lebanon Hill Gut. June (451). Canaan. June (Mrs. R. 397). Eggers Fl. 237.

419. ABRUS PRECATORIUS L.
"Jumbee Bead." "Wild Licorice." Climbing high over bushes and in trees; common everywhere. Bassin. April (373, Mrs. R. 456). The leaves when chewed resemble licorice in taste and assuage thirst. Eggers Fl. 212.

420. CLITORIA TERNATEA L.
"Blue Vine." Climbing over low brush everywhere Bassin. Dec. to Jan. (152, Mrs. R. 7). Eggers Fl. 217.

421. BRADBURYA VIRGINIANA (L.) Ktze.
Frequent in dry situations. Bassin. May (392), Sept. (Mrs. R. 5). Eggers Fl. 218.

422. [Bradburya Virginiana angustifolia. Eggers Fl. 218.]
The species takes on many forms of leaf both in shape and size, especially on this island.

423. **Teramnus labialis** (L.) Spr.
Glycine Linn. Garden at Bassin. Nov. (76).

424. [Teramus uncinatus Sw. Eggers Fl. 219.]

425. [Teramus uncinatus albiflorus Egg. Eggers Fl. 219.]

426. [Erythrina horrida Egg. Eggers Fl. 233.]

427. [Erythrina Corallodendron L. Eggers Fl. 232.]

428. MUCUNA PRURIENS de C.
"Cow Itch." In moist, rocky situation at Crequis. June (no num.). Eggers 231.

429. CANAVALIA OBTUSIFOLIA (L.) de C.
Very common along the coast sea beach at Big Princess. Oct. (25). Judith's Fancy. Feb. (Mrs. R. 113). Eggers Fl. 230.

430. CAJANUS CAJAN (L.) Millsp.
"Pigeon Pea." Cultivated extensively and naturalized. The seeds are eaten when ripe. Bassin. March (318). Midland. Jan. (Mrs. R. 25) Eggers Fl. 216.

431. DOLICHOLUS MINIMUS (L.) Medic.
The common form with striped petals. Bassin. Jan. (199). Cane field at Judith's Fancy. Feb. (Mrs. R. 110). Eggers Fl. 213.

432. DOLICHOLUS MINIMUS LUTEUS (Egg.)
Rhynchosia Egg. Fl. 213. Yards at Bassin. June (432).

433. DOLICHOLUS RETICULATUS (Sw.) Millsp.
The strong vines common in dry situations. Yards and pastures at Bassin. Nov. (79), Feb. (Mrs. R. 142). Eggers Fl. 215.

434. [Phaseolus alatus L. Eggers Fl. 226.]

435. [Phaseolus lunatus L. Eggers Fl. 224.]

436. PHASEOLUS SEMIERECTUS L.
Sandy roadsides and rich cane fields; common. Morning Star. Dec. (158). Bassin. Jan. (Mrs. R. 30). Eggers Fl. 227.

437. [Phaseolus vulgaris L. Eggers Fl. 225.]

438. **Vigna Catjang** Walp.
Only one specimen seen, that in the sandy edge of a cornfield near Doily Hill. May (m).

439. VIGNA REPENS (L.) Ktze.
Common along roads, in ditches and moist, rich localities. Bassin. Nov. (129). March (Mrs. R. 238). Eggers Fl. 222.

440. DOLICHOS LABLAB L.
Common on bushes along the coast and in cultivation. Canaan. March (321). Eggers Fl 223.

441. **Dolichos Lablab albiflorus** (de C.)
Lablab vulgaris albiflorus de C. "Banabis White Bean." Cultivated in the garden at Bassin. Nov. (Mrs. R. 217).

OXALIDACEÆ.

442. [Oxalis Martiana Zucc. Eggers Fl. 143.]

443. [Oxalis corniculata L. Eggers Fl. 144.]

444. [Oxalis corniculata microphylla Poir. Eggers Fl. 144.]

445. **Oxalis latifolia** H.B.K.
Wild in the garden at Bassin. Jan. (195, Mrs. R. 216).

ERYTHROXYLACEÆ.

446. ERYTHROXYLUM OVATUM Cav.
"Wild Cherry." "Brisselet." Crequis. April (352a). Eggers Fl. 114.

447. **Erythroxylum brevipes** de C.
East end. June (438). Mt. Welcome. April (Mrs. R. 312). See note under Eggers 114.

MALPIGHIACEÆ.

448. [Byrsonima spicata Rich. Eggers Fl. 115.]

449. **Byrsonima coriacea** de C.
One tree only, on top of Parasol Hill. July (461). This is doubtless the same individual as Eggers Fl. 115 above.

450. [Bunchosia Swartziana Gris. Eggers Fl. 118.]

451. GALPHIMIA GLAUCA Cav.
Cultivated at Bassin. June (no num.), Feb. (Mrs. R. 184). Eggers Fl. 118.

452. MALPIGHIA GLABRA L.
"Cherry." Dry, open places in stony ground. Yard at Bassin. Dec. (153), April (Mrs. R. 319). A low, bushy tree bearing from three to four profuse crops annually of large, shiny, red, pleasantly acid berries. Used in making preserves and jellies. Eggers Fl. 119.

453. MALPIGHIA URENS L.
"Touch-me-not." Thickets along sandy beaches. Judith's Fancy (378). Salt River. April (Mrs. R. 339). Also seen at the gut near the base of Signal Hill. Eggers Fl. 120. The long, flat-lying needles on the under side of the leaves cause bad wounds to the unwary who are attracted to gather the beautiful leaves and exquisite pink flowers. The natives fear the plant and are even cautious of getting to leeward of it when the wind blows, as the spines are then detached and blow into the flesh, causing exceedingly unpleasant sores.

454. [Malpighia urens lanceolata. Eggers 120.]

455. STIGMATOPHYLLON PERIPLOCÆFOLIUM Juss.
Roadside thickets east of Bassin near Mt. Welcome. Dec. (154). Near Petronella. April (Mrs. R. 298). Eggers Fl. 123.

456. HETEROPTERIS PURPUREA Kth.
In rocky places near roads. East of Bassin. Nov. (49). East end. Feb. (Mrs. R. 107). Also on the north side of the island. Eggers Fl. 124.

457. [Heteropteris parviflora deC. Eggers Fl. 125.]

ZYGOPHYLLACEÆ.

458. TRIBULUS CISTOIDES L.
Local but abundant in sandy or rocky places. Cotton Grove. July (468). South side. April (Mrs. R. 347). Eggers Fl. 145.

459. KALLSTRŒMIA MAXIMA (L.) T.&G.
"Centipee Root." Frequent along roads and in yards. Bassin. Dec. (138), April (Mrs. R. 314). Eggers Fl. 146.

460. [Guajacum officinale L. Eggers Fl. 147.]

RUTACEÆ.

461. [Citrus medica L. Eggers Fl. 138.]

462. CITRUS LIMONUM Risso.
"Lemon." Cultivated at Bassin. March and April (339, Mrs. R. 301). The lemons grown here are thick-skinned and of poor quality; they produce but little juice and that not as acid as is usual. Eggers Fl. 138.

463. CITRUS AURANTIUM L.
"Orange." Largely cultivated at Spring Garden and Bassin. April and May (399, Mrs. R. 302). The fruiting season is from December to July. Eggers Fl. 139.

464. CITRUS VULGARIS Risso.
"Bitter Orange." Cultivated, rind very bitter. Bassin. May (400). The C. aurantium Bigaradia of Eggers Fl. 139?

465. [Citrus buxifolia Padr. Eggers Fl. 140.]

466. [Citrus decumana L. Eggers Fl. 141.]

467. **Citrus Limetta** deC.
"Lime." Cultivated extensively at Spring Garden and at Bassin. Dec. (179), Jan. (Mrs. R. 69).

468. TRIPHASIA TRIFOLIATA deC.
"Sweet Lime." Cultivated at Bassin. Nov. (119), Jan. (Mrs. R. 50). The fruit is eaten, and being very viscous is also used for glue. Eggers Fl. 142.

469. MURRAYA EXOTICA L.
Cultivated for its fragrant flowers. Bassin. Nov. (87), April (Mrs. R. 316). Eggers Fl., p. 37.

470. TOBINIA PUNCTATA Gr.
"Jumbee Apple." Along Contentment road near Bassin. April (Mrs. R. 332). Eggers Fl. 149.

471. [Fagara microphylla Desf. Eggers Fl. 151.]

472. [Xanthoxylum Clava-Herculis L. Eggers Fl. 152.]

473. [Xanthoxylum flavum Vahl. Eggers Fl. 153.]

SIMARUBACEÆ.

474. SURIANA MARITIMA L.
Common along the sandy beach at Lime Tree Bay. March (329). Eggers Fl. 675.

475. QUASSIA AMARA L. f.
Cultivated at Bassin. June (a). Eggers Fl. 155.

476. CASTELA ERECTA Turp
Stony pasture near the Blessing Estate. April (377). Eggers Fl. 156.

477. PICRÆNA EXCELSA Lindl.
"Quassia." In moist, shady thickets at Canaan. June (no num.). Eggers Fl. 157.

BURSERACEÆ.

478. BURSERA GUMMIFERA L.
Common along roads. East end. Jan. (245). Near Bassin. April (Mrs. R. 343). Eggers Fl. 176. The trunks are used for fence posts, as they soon sprout and remain alive.

479. [Hedwigia balsamifera Sw. Eggers Fl. 177.]

480. [Amyris sylvatica Jacq. Eggers Fl 178.]

MELIACEÆ.

481. MELIA AZEDARACH L.
"Lilac." "Lelock." Now and then found in the yards of estates or naturalized along roads. Work and Rest. Oct. (28). Jerusalem. April (Mrs. R. 232). Eggers Fl. 134.

482. TRICHILIA HIRTA L.
"Bastard Coffee." Signal Hill, Feb., and Cotton Valley. May (270). Rustup Twist. May (Mrs. R. 368). Eggers Fl. 135.

483. SWIETENIA MAHOGANI Jacq.
Cultivated as a shade tree at Bassin. Jan. (247). May (Mrs. R. 360). Eggers Fl. 136.

POLYGALACEÆ.

484. [Securidaca Brownii Gr. Eggers Fl. 37.]

485. **Securidaca erecta** Jacq.
Orange Grove. March (338), April (Mrs. R. 236). Also seen at Midland.

EUPHORBIACEÆ.

486 PHYLLANTHUS DISTICHUS (L.) Mill.
"Gooseberry." Naturalized near a roadway at Bassin. Feb. (268, Mrs. R. 86). Bears yellow sour berries in great profusion; these are used for preserves. Eggers Fl. 731. Cultivated at Bassin. June (zz).

487. PHYLLANTHUS NIRURI L.
"Creole Chinine." Abundant along roads in dry situations. Dec. (132). April (Mrs. R. 310). Eggers Fl. 730.

488. [Phyllanthus nobilis Müll. Eggers Fl. 732.]

489. [Phyllanthus nobilis Antillana (Juss.) Egg. Eggers Fl. 732.]

490. [Securinega Acidothamnus Müll. Eggers Fl. 734.]

491. SAVIA SESSILIFLORA Willd.
A shrub 10 to 18 feet high, in dry rocky thickets. Signal Hill, Bassin. June (441). Eggers Fl. 728.

492. DRYPETES LÆVIGATA Gris.
Shrubby, somewhat sarmentose or scandent, flowers sweet scented. Male plants only seen. Rich soil at the bluffs of Salt River. July (462). Eggers Fl. 735.

493. [Drypetes glauca Vahl. Eggers Fl. 736.]

494. CROTON ASTROITES Ait.
"White Marán." Abundant along east end roads. Dec. (160). Eggers Fl. 737.

495. CROTON BETULINUS Vahl.
Pastures on the north side. Feb. (Mrs. R. 147). And at Midland. Jan. (185). Eggers Fl. 738.

496. CROTON DISCOLOR Willd.
On rocky ledges, abundant but local. Petronella and Castle Coakley. Nov. (70). Jerusalem. March (Mrs. R. 228). Eggers Fl. 740.

497. CROTON FLAVENS L.
"Marán." Very common in dry locations generally. Roadsides at Bassin. Nov. (48), March (Mrs. R. 202). Used by the natives for cleaning greasy pots and pans. A form (*forma grisea*) grows at the sandy beach line at Judith's Fancy. Nov. (38). Eggers Fl. 739.

498. **Croton flavens rigidus** Müll.
"Yellow Marán." On a low sandy bluff near the beach at Judith's Fancy. Nov. (37).

499. CROTON LOBATUS L.
Cane fields and old pastures, abundant. Golden Rock. Dec. (146). Contentment. Feb. (Mrs. R. 196). Eggers Fl. 742.

500. CROTON OVALIFOLIUS Vahl.
Dry hilly pasture lands at Bassin. Oct. (9), Jan. (Mrs. R. 23). Used for making tea. Eggers Fl. 741.

501. DITAXIS FASCICULATA A. Juss.
On the north side. Jan. (Mrs. R. 153). Eggers Fl. 746.

502. ARGITHAMNIA CANDICANS Sw.
Abundant on a rocky ledge at west end. June (426). Eggers Fl. 747.

503. ADELIA RICINELLA L.
Roadside at east end. April (Mrs. R. 297). Eggers Fl. 745.

504. **Acalypha** sp.
Tomentose on the young branches. Leaves red, ample, 11x 17 cm., ovate-lanceolate, finely crenate-dentate, acute, truncate at the base; white-punctate and sparingly hairy; petiole 1 to 1.5 cm.; male spikes 5 to 7 cm. long, red.

Cultivated and escaped; the former at Canaan (no num.); the latter at Bassin. Feb. (Mrs. R. 118).

505. **Acalypha Portoricensis** Urb.Symb.Ant. 1: 338.
In sandy and rocky loam at Lebanon Hill Gut. June (418).

506. ACALYPHA REPTANS Sw.
Between the bricks of a wall at Bassin. Dec. (147). Between the stones of a cistern wall at Midland. March (Mrs. R. 210). Eggers Fl. 748.

507. TRAGIA VOLUBILIS L.
Pasture fence rows. Bassin. Dec. (143), Feb. (Mrs. R 119). The sting proves very painful. Eggers Fl. 749.

508. DALECHAMPIA SCANDENS L.
Bassin. May (Mrs. R. 363). Eggers Fl. 759.

509. RICINUS COMMUNIS L.
"Castor Bean." Grows to a height of from 5 to 9 feet, in waste places. Yard at Bassin. Nov. (122), Feb. (Mrs. R. 127). Eggers Fl. 750.

510. MANIHOT MANIHOT (L.) Cockl.
"Cassava." Cultivated on the St. John Estate. Sept. (Mrs. R. 6). Eggers Fl. 751.

511. CODIÆUM VARIEGATUM Bl.
Cultivated at Bassin. June (Mrs. R., no num.). Eggers Fl., p. 94.

512. JATROPHA CURCAS L.
"French Physic Nut." On the Montpelier Estate. July (481). Eggers Fl. 752.

513. JATROPHA GOSSYPIFOLIA L.
"Physic Nut." A common weed in dry pastures, stem often ligneous. Bassin. Oct. (14), Feb. (Mrs. R. 126). Eggers Fl. 753.

514. [Jatropha gossypifolia staphisagriæfolia. Eggers Fl. 753.]

515. [Jatropha gossipifolia elegans. Eggers 753.]

516. JATROPHA MULTIFIDA L.
Common in gardens. Bassin May (Mrs. R. 362), July (no num.). Eggers Fl. 754.

517. ALEURITES MOLUCCANA Willd.
"Walnut." Roadside near the gut at Crequis. Only one tree noted. July (493). Eggers Fl. 744. Nuts excellent.

518. HIPPOMANE MANCINELLA L.
"Mancineel Apple." In low, wet, muddy places. Lagoon borders east of Bassin. Feb. (286). Lagoon at Salt River. June (Mrs. R. 240). Eggers Fl. 756. The yellow fruit has the odor of a harvest apple, but is very acrid and poisonous.

519. GYMNANTHES LUCIDA Sw.
In thickets on Signal Hill, Bassin, 6 to 15 ft. high. June (442). Eggers Fl. 755.

520. HURA CREPITANS L.
"Sand Box." Cultivated and naturalized in many parts of the island. Bassin. Jan. (230), April (Mrs. R. 335). Eggers Fl. 758. Continuously in flower, green and ripe fruit.

521. EUPHORBIA BUXIFOLIA Lam.
Sands of the beach at Judith's Fancy. Nov. (36). Lime Tree Bay. April (Mrs. R. 267). Eggers Fl. 760.

522. [Euphorbia articulata Burm. Eggers Fl. 761.]

523. [Euphorbia geniculata Ort. Eggers Fl. 767.]

524. EUPHORBIA CYATHOPHORA Murr.
Waste places, common. Golden Rock. Nov. (100). West end. Feb. (Mrs. R. 95). Eggers Fl. 768.

525. EUPHORBIA HYPERICIFOLIA L.
Waste lands, roadsides, and in gardens; common. Bassin. Nov. (75), Feb. (Mrs. R. 124). Eggers Fl. 763.

526. [Euphorbia hypericifolia hyssopifolia (L.) Boiss. Eggers Fl. 763.]

527. [Euphorbia neriifolia L. Eggers Fl. 769.]

528. [Euphorbia petiolaris Sims. Eggers Fl. 766.]

529. EUPHORBIA PILULIFERA L.
Dry, sandy soil. Yard at Bassin. Nov. (92). Eggers Fl. 762.

530. **Euphorbia pilulifera procumbens** Boiss.
Between the paving bricks at Bassin. Feb. (Mrs. R. 200).

531. EUPHORBIA PROSTRATA Ait.
Sandy soils at New Fort. Nov. (63). Between the bricks of walls and of pavements in the yard at Bassin. March (Mrs. R. 211a). Eggers Fl. 765.

532. [Euphorbia thymifolia Burm. Eggers Fl. 764.]

533. PEDILANTHUS ANGUSTIFOLIUS Poit.
In a thicket on low ground near the lagoon at east end. May (no num.). Eggers Fl. 770.

534. PEDILANTHUS PADIFOLIUS (L.) Poit.
In thickets in dry stony ground. Yard at Bassin. Feb. (Mrs. R. 165). On Signal Hill, Bassin. Dec. (181). Eggers Fl. 770.

535. PEDILANTHUS TITHYMALOIDES (L.) Poit.
On low grounds in thickets at east end. April (no num.). In a graveyard at Midland. March (Mrs. R. 287). Eggers Fl. 770.

BUXACEÆ.

536. [Buxus Vahlii Baill. Eggers Fl. 727.]

ANACARDIACEÆ.

537. SPONDIAS LUTEA L.
"Hog Plum." In a field at Bassin. May (387). Yard at Bassin. April (Mrs. R. 340). Eggers Fl. 179.

538. SPONDIAS PURPUREA L.
"Jamaica Plum." "Curaçao Plum." Cultivated at Bassin. Feb. (Mrs. R. 186, April 290). Eggers Fl. 180.

539. **Spondias dulcis** Forst.
"Pomseteer." Cultivated for its fruits. Canaan. March (Mrs. R. 274).

540. [Rhus Antillana Egg. Eggers Fl. 181.]

541. COMOCLADIA ILICIFOLIA Sw.
In limestone soil at Anguilla. April (374). "The plant poisons me in the same manner as does Rhus toxicodendron in the States." Eggers Fl. 182.

542. MANGIFERA INDICA L.
"Mango." Cultivated and naturalized. The exceedingly variable fruits are largely employed for food. Gardens at Bassin. Dec. to Jan. (168, Mrs. R. 53). Eggers Fl. 183.

543. ANACARDIUM OCCIDENTALE L.
"Cashew." Cultivated in fields and gardens. The fruits are both eaten and converted into wine. Bassin. Nov. to Jan. (95, Mrs. R. 63). Eggers Fl. 184.

CELASTRACEÆ.

544. [Maytenus elæodendroides Gris. Eggers Fl. 163.]

545. [Maytenus lævigatus Gris. Eggers Fl. 164.]

546. ELÆODENDRON XYLOCARPUM deC.
On rocky bluffs along the coast at Rustup Twist. March (323). On the north side. June (Mrs. R. 427). Eggers Fl. 165.

547. MYGINDA PALLENS Sw.
At Shoy's Lagoon. April (345). Eggers Fl. 166.

548. [Myginda latifolia Sw. Eggers Fl. 167.]

549. [Schæfferia frutescens Jacq. Eggers Fl. 168.]

SAPINDACEÆ.

550 SERJANIA LUCIDA Schum.
"Wis." Common in dry places, where it climbs over trees and shrubs. In a pasture at Bassin. Jan. (241). Also noted on Signal Hill. Eggers Fl. 128.

551. **Paullinia frutescens glabrescens** (L.) Radlk.
Cultivated? Midland. Feb. (Mrs. R. 177).

552. CARDIOSPERMUM HALICACABUM L.
"Baloon Vine." Very common, climbing over fences, cacti and trees. Corn Hill. Jan. (202). Midland. Jan. (Mrs. R. 26). Eggers Fl. 126.

553. [Cardiospermum microcarpum Kth. Eggers Fl. 127.]

554. MELICOCCA BIJUGA L.
"Kenepps." "Keneppy Tree." Naturalized in fields at Bassin. April (372, Mrs. R. 330). Eggers says (Fl. 132): "Leafless during flowering." This does not prove true of this locality, though the trees may be partly so. Polygamous. Fruit green, shining and warty, oval, pointed, covered with a crustaceous thin shell, brown-maculate within and free from the gelatinous, astringent, pinkish flesh, the one or two seeds large; a fluid is usually secreted between the pericarp and the flesh. These fruits are sought by bats and domestic fowls, which have been observed devouring them eagerly in the very tops of trees 40 feet high. Wood hard and tough.

555. [Sapindus inæqualis de C. Eggers Fl. 130.]

556. [Schmidelia occidentalis Sw. Eggers Fl. 131.]

557. [Dodonæa viscosa L. Eggers Fl. 133.]

VITACEÆ.

558. CISSUS SICYOIDES L.
"Pudding Vine." Growing over a stone wall at Big Princess. May (389). Eggers Fl. 159.

559. CISSUS TRIFOLIATA (L.) Sw.
Extensively climbing. Big Princess. Nov. (102), March (Mrs. R. 239). Eggers Fl. 160.

560. CISSUS ACIDA L.
Climbing over a Haiti tree at Cane Garden. May (Mrs. R. 380). Covering a stone wall at Coakley Bay. May (406). Eggers Fl. 161.

561. VITIS CARIBÆA de C.
Climbing high in forests along the gut at Caledonia; rare. July (no num.) Eggers Fl. 162.

BALSAMINACEÆ.

562. [Impatiens Balsaminea L. Eggers Fl. 137.]

RHAMNACEÆ.

563. [Reynosia mucronata Gris. Eggers Fl. 170.]

564. COLUBRINA RECLINATA Brong.
Thickets on Signal Hill, Bassin. April (370). Eggers Fl. 173.

565. [Colubrina ferruginosa Brong. Eggers Fl. 172.]

566. [Krugiodendron ferreum Urb. *Condalea* Gris. Eggers Fl. 171.]

567. [Zizyphus reticulata de C. Eggers Fl. 174.]

568. GOUANIA DOMINGENSIS L.
"Soap-stick." Frequent in roadside thickets near Bassin. Nov. (50). Eggers Fl. 175.

TILIACEÆ.

569. [Triumfetta Lappula L. Eggers Fl. 100.]

570. TRIUMFETTA ALTHÆOIDES Lam.
"Burr Bush." Waste places and pastures. Suffrutescent, flowers vespertine. Yard at Bassin. Nov. and Dec. (80, 135), Feb. (Mrs. R. 81). Eggers Fl. 101.

571. TRIUMFETTA SEMITRILOBA L.
In grassy fields at Bassin. June (c. f.). Eggers Fl. 102.

572. **Triumfetta semitriloba Havanensis** (Kth.)
In fields and the yard at Bassin. Dec. (136), Feb. and March (Mrs. R. 138, 225).

573. TRIUMFETTA RHOMBOIDEA Jacq.
In the yard at Bassin. Dec (136 pt.), June (h). Eggers Fl. 103.

574. CORCHORUS ACUTANGULUS Lam.
Common in gardens. Bassin. Jan. (188). East end. June (Mrs. R. 406). Eggers Fl. 104.

575. CORCHORUS SILIQUOSUS L.
Common in cultivated places. Cane field at Golden Rock. Jan. (196). Waste hillside at Bassin. June (Mrs. R. 410). Eggers Fl. 105.

576. [Corchorus hirtus L. Eggers Fl. 106.]

577. CORCHORUS HIRSUTUS L.
Frequent in rocky open situations. New Fort. Nov. (62). North side at Salt River. Feb (Mrs. R. 145). Eggers Fl. 107.

MALVACEÆ.

578. ABELMOSCHUS ESCULENTUS (L.) Moen.
"Okra." Cultivated, and escaped in many localities. Judith's Fancy. Feb. (Mrs. R.). Used for soups. Eggers Fl. 79.

579. **Abutilon graveolens** W.&A.
"Marsh Mallow." In a pasture at Midland. Feb. (Mrs. R. 176).

580. ABUTILON INDICUM (L.) G.Don.
In gardens and pastures, frequent. Bassin. April (Mrs. R. 318), Oct (8). Eggers Fl. 70.

581. [Abutilon lignosum Rich. Eggers Fl. 71.]

582. ABUTILON UMBELLATUM Sw.
Rocky soil at the east end of the island. July (ee). Eggers Fl. 69.

583. [Bastardia viscosa Kth. Eggers Fl. 72.]

584. GOSSYPIUM BARBADENSE L.
Becoming common in waste places everywhere. Hundreds of acres were formerly planted in cotton, though none is at present grown on the island. Cotton Valley, formerly in cotton, is now a deserted, useless area, run to cactus, cotton, crotons and salvia. Roadsides at Bassin. Nov. (51), Jan. (Mrs. R. 62).

585. [Hibiscus Braziliensis L. Eggers Fl. 84.]

586. [Hibiscus clypeatus L. Eggers Fl. 80.]

587. HIBISCUS PHŒNICEUS Jacq.
In dry, stony, waste localities; infrequent. East end. May (404). Mess Hill, Bassin. Jan. (Mrs. R. 75). Eggers Fl. 83.

588. [Hibiscus Sabdariffa L. Eggers Fl. 82.]

589. HIBISCUS VITIFOLIUS L.
"Black-eyed Susan." Common in waste places. Bassin. Oct. (11), Jan. (Mrs. R. 51). Eggers Fl. 81.

590. [Malachra capitata L. Eggers Fl. 73.]

591. MALACHRA ALCEÆFOLIA L.
Common in moist places. Roadsides at east end. Dec. (161). Orange Grove. March (Mrs. R. 221). Eggers Fl. 73.

592. **Malachra palmata** Moen.
At the bridge over the gut at Catherine's Rest. June (j). In a pasture at Bassin. Feb. (Mrs. R. 83).

593. MALVASTRUM COROMANDELIANUM (L.) Garke.
In waste places, common. Yard at Bassin. Oct. (4). Eggers Fl. 54.

594. MALVASTRUM SPICATUM (L.) Gray.
"Hollow Stalk." A common weed. In the yard at Bassin. Oct. (7). At Midland. Feb. (Mrs. R. 182). Eggers Fl. 53.

595. [Pavonia racemosa Sw. Eggers Fl. 77.]

596. PAVONIA SPINIFEX (L.) Cav.
Common in waste lands. Bassin. Nov. (96), April (Mrs. R. 348). Eggers Fl. 76.

597. [Paritium tiliaceum A. Juss. Eggers Fl. 87.]

598. SIDA ANGUSTIFOLIA Lam.
In dry, stony places. Madame McCarty's. July (no num.). Eggers Fl. 59.

599. SIDA ARGUTA Sw.
Shady ground in a pasture at Bassin. (Nov. 83). Suffrutescent, not prostrate. Eggers Fl. 63.

600. SIDA CARPINIFOLIA ACUTA (Burm.) Millsp.
Very common in grassy places. Yards at Bassin. Oct (5), Jan. (Mrs. R. 37). Eggers Fl. 55.

601. SIDA CARPINIFOLIA ANTILLANA Millsp.
Waste grounds and pastures. Bassin. Nov. (86, Mrs. R. 94, 105). Eggers Fl. 58.

602. [Sida carpinifolia brevicuspidata Egg. Eggers Fl. 55.]

603. SIDA CILIARIS L.
A very common weed among grasses in sandy soil. Yard at Bassin. Oct. (3), June (Mrs. R. 260). Eggers Fl. 57.

604. SIDA CORDIFOLIA L.
Rocky soils, east end. July (e). Eggers Fl. 66.

605. SIDA CORDIFOLIA ALTHÆFOLIA (Sw.) Gris.
Frequent in waste places. Bassin. Feb. (274). Eggers Fl. 66.

606. SIDA GLUTINOSA Cav.
In waste places, infrequent. Yard at Bassin. Jan. (242). In a pasture at Friedensthal Hill. Feb. (Mrs. R. 157). Eggers Fl. 64.

607. [Sida nervosa viscosa Egg. Eggers Fl. 64.]

608. SIDA RETUSA L.
Sida rhombifolia retusa (L.) Gris. The broad, strongly truncate-based, crenate-dentate, long-petioled leaves; calyx characters, strongly hairy carpids and puberulent seeds, keep this distinct as a species.
Frequent in grassy yards. Bassin. Nov. (97). Eggers Fl. 60.

609. SIDA RHOMBIFOLIA L.
In dry, sandy soil. Along the lane at Judith's Fancy. Aug. (501). Eggers Fl. 60.

610. [Sida spinosa L. Eggers Fl. 59.]

611. [Sida spinosa polycarpa Egg. Eggers 59.]

612. SIDA SUPINA GLABRA (L'Her.) Egg.
Between the bricks of walls and in damp places and grassy fields, abundant. Yard at Bassin. Jan. (214, Mrs. R. 55). Eggers Fl. 62.

613. SIDA SUPINA PILOSA (Cav.) Gris.
In dry, stony ground and along roads. East end. June (436). Eggers Fl. 62.

614. THESPESIA POPULNEA (L.) Soland.
"Haiti" or "Taheite Tree." Frequent on low, sandy beaches. Golden Rock. Jan. (197). Seashore at Bassin. June (Mrs. R. 403). Eggers Fl. 88. Wood hard and fine grained. Used for cabinet work.

615. URENA AMERICANA L.f.
Along a running gut at Big Fountain. June (448). Eggers Fl. 75.

616. WISSADULA PERIPLOCÆFOLIA (L.) Gris.
Infrequent. East end. Feb. (262). Eggers Fl. 68.

BOMBACACEÆ.

617. ADANSONIA DIGITATA L.
"Guinea Tamarind." Cultivated at Ham's Bay. July (Mrs. R. 451). Eggers Fl. 89.

618. ERIODENDRON ANFRACTUOSUM deC.
"Silk-Cotton Tree." A fairly common roadside tree. Bassin. Aug. (no num.). Eggers Fl. 90. A large tree with enormous flattened branches usually well covered with Tillandsias, especially utriculata and recurvata. The tree is worshiped by the Obi followers, who believe it to be inhabited by devils.

619. [Myrodia turbinata Sw. Eggers Fl. 91.]

STERCULIACEÆ.

620. AYENIA PUSILLA L.
East end. June (Mrs. R. 431). Eggers Fl. 95.

621. [Guazuma ulmifolia Lam. Eggers Fl. 93.]

622. HELICTERES JAMAICENSIS Jacq.
Roadside thickets. East end. Dec. (166). Also seen on Signal Hill near Bassin. Recovery Hill. April (Mrs. R. 327). Eggers Fl. 92.

623. MELOCHIA NODIFLORA Sw.
A common weed along roads and in pastures. Bassin. Nov. (84), Feb. (Mrs. R. 133). Eggers Fl. 98.

624. MELOCHIA PYRAMIDATA L.
Common in dry places along roads and in pastures. Bassin. Nov. (98), Feb. (Mrs. R. 174). Eggers Fl. 96.

625. MELOCHIA TOMENTOSA L.
"Broom-wood." In same situations as the last. Bassin. Nov. (127), Feb. (Mrs. R. 173). Eggers Fl. 97. Hand brooms are made by tying the plants into bundles.

626. THEOBROMA CACAO L.
"Cacao." Extensively cultivated at Spring Garden and Canaan. Aug. (no num.). Eggers Fl. 94. Native chocolate is prepared by grinding the "nibs" into a paste, which is formed into balls an inch or more in diameter for the local market.

627. WALTHERIA INDICA L.
Common in dry pastures and along roads. Bassin. Nov. (114). Feb. (Mrs. R. 188). Eggers Fl. 99.

THEACEÆ.

628. [Ternstrœmia elliptica Sw. Eggers Fl. 108.]

GUTTIFERÆ.

629. [Clusia rosea L. Eggers Fl. 109.]

630. [Clusia alba L.? Eggers Fl. 110.]

631. MAMMEA AMERICANA L.
"Mammey Apple." Naturalized everywhere, especially along roads. April (375). Princess. April (Mrs. R. 317). Eggers Fl. 111. Fruits large, russet brown, pericarp one-eighth of an inch thick. Flesh yellow, firm, juicy and palatable. Seed large, dark brown, scaly, ovate in section.

632. CALOPHYLLUM CALABA Jacq.
A large tree frequenting moist places. Lebanon Hill. June (415). Also seen at Crequis. Eggers Fl. 112.

TAMARICACEÆ.

633. [Tamarix Indica Willd. Eggers Fl. 36.]

BIXACEÆ.

634. BIXA ORELLANA L.
"Annatto." This species was doubtless brought to the island by the Caribs, who used the red pigment of the seed coats for coloring their bodies. The tree is found fully naturalized in the forests, especially near Golden Rock (no num.). It is also cultivated. Grange. Sept. (Mrs. R. 8). Eggers Fl. 28.

CANELLACEÆ.

635. [Canella alba Murr. Eggers Fl. 113.]

VIOLACEÆ.

636. [Ionidium strictum Vent. Eggers Fl. 35.]

FLACOURTIACEÆ.

637. [Trilix crucis Gris. Eggers Fl. 29.]

638. **Casearia hirta** Sw.
Along a gut near Mt. Pleasant. June (419).

639. [Casearia parviflora microcarpa Egg. Eggers Fl. 31.]

640. CASEARIA RAMIFLORA Vahl.
Lebanon Hill. May (Mrs. R 387). Eggers Fl. 32.

641. CASEARIA SYLVESTRIS Sw.
Roadsides at Grove Place. June (425). Eggers Fl. 30.

642. SAMYDA SERRULATA L.
Roadsides Bassin. Dec. (141). And Signal Hill, north side. May (Mrs. R. 376). Eggers Fl. 34.

TURNERACEÆ.

643. **Turnera ulmifolia acuta** Urban.
Occasionally seen in thickets on stony ground. The Grange. Dec. (137). North side. Feb. (Mrs. R. 154).

644. [Turnera ulmifolia L. Eggers Fl. 353.]

PASSIFLORACEÆ.

645. PASSIFLORA FOETIDA L.
Frequent along roads. Judith's Fancy. Feb. (271). Also Mt. Washington and Clifton Hill, south side. March (Mrs. R. 233). Eggers Fl. 352.

646. PASSIFLORA HIRSUTA L.
Over a shaded stone wall near Midland. June (no num.).

647. [Passiflora incarnata L. Eggers Fl. 351.]

648. PASSIFLORA LAURIFOLIA L.
"Bell Apple." Cultivated at Bassin. April to July (502, Mrs. R. 331). Eggers Fl. 350. Fruits utilized; the jelly-like pulp has the taste of rose-water.

649. [Passiflora pallida L. Eggers Fl. 346.]

650. **Passiflora quadrangularis** L.
"Grenadilla." Cultivated for its edible fruit. Lebanon Hill. March (Mrs. R. 279)

651. [Passiflora rubra L. Eggers Fl. 349.]

652. PASSIFLORA SUBEROSA L.
On a stone wall at Midland (186); also seen at Castle Coakley and Big Princess, Work and Rest. April (Mrs. R. 322). Eggers Fl. 345.

CARICACEÆ.

653. CARICA PAPAYA L.
"Papaw." Naturalized about dwellings and estates. Cultivated at Bassin Nov. (90). Big Princess. Feb. (Mrs. R. 162). Eggers Fl. 344.

CACTACEÆ.

654. [Cereus floccosus Hort. Eggers Fl. 358.]

655. [Cereus grandiflorus Haw. Eggers Fl. 361.]

656. **Cereus nycticalus** Lk.
Naturalized over stone walls in a neglected garden. Blossoms very fragrant, creamy white, the outer sepals chocolate-brown. Bassin. April (386).

657. Cereus triangularis (L.) Haw.
Trailing over roadside rocks at Midland (no num.). Eggers Fl. 360.

658. [Melocactus communis de C. Eggers Fl. 356.]

659. Opuntia coccinellifera (L.) Mill.
Cultivated at west end. Feb. (Mrs. R. 99). Eggers Fl. 367.

660. Opuntia Curassavica Mill.
In shaded thickets near the lagoon at east end. May (no num.). Eggers Fl. 362.

661. [Opuntia horrida Salm. Eggers Fl. 364.]

662. [Opuntia spinosissima Mill. Eggers Fl. 365.]

663. Opuntia tuberculata Haw.
"French Prickly-pear." Cultivated at Jerusalem Estate. March (Mrs. R. 231). Eggers Fl. 366.

664. Opuntia Tuna (L.) Mill.
"Prickly-pear." Rocky waste soil of roadsides everywhere. March (310). Eggers Fl. 363. Fruit yields a red dye.

665. Pereskia Bleo H.B.K.
Cultivated; garden at Bassin. April (385, Mrs. R. 294). Eggers Fl. 370.

666. [Pereskia aculeata Mill. Eggers Fl. 369.]

LYTHRACEÆ.

667. Ammannia latifolia L.
Frequent in wet places. Roadside ditch at St. John. March 307). Ponds near Work and Rest. Feb. (Mrs. R. 323b). Eggers Fl. 325.

668. [Antherylium Rohrii Vahl. Eggers Fl. 326.]

669. Lagerstrœmia Indica L.
"Queen of Flowers." Cultivated at Bassin. May and June (431, Mrs. R. 378). Eggers Fl., p. 54.

670. LAWSONIA INERMIS L.
"Mignonette." Cultivated in gardens. Bassin. Jan. to May (213, Mrs. R. 377). Eggers Fl., p. 54.

PUNICACEÆ.

671. PUNICA GRANATUM L.
"Pomegranate." Naturalized and occasionally cultivated. The yellow-flowered form in a yard at Bassin, Feb. (Mrs. R. 84); the crimson-flowered at Lowry Hill, May (Mrs. R. 388). Eggers Fl. 313.

LECYTHIDACEÆ.

672. COUROUPITA GUIANENSIS Aubl.
"Nutmeg Tree." Cultivated at Bassin. April (Mrs. R. 344), June (no num.). Eggers Fl., p. 53.

RHIZOPHORACEÆ.

673. [Rhizophora Mangle L. Eggers Fl. 328.]

MYRTACEÆ.

674. [Anamomis punctata Gris. Eggers Fl. 308.]

675. [Chytraculia Chytraculia (L.) Millsp. Eggers Fl. 286.]

676. [Chytraculia pallens (Gris.) Eggers Fl. 287.]

677. [Eugenia acetosans Poir. Eggers Fl. 300.]

678. [Eugenia axillaris Poir. Eggers Fl. 294.]

679. EUGENIA BUXIFOLIA Willd.
Near Blessing. June (Mrs. R. 417). Eggers Fl. 291.

680. EUGENIA FLORIBUNDA West.
"Guava Berry." Moist pasture lands at Spring Garden. July (478). Contentment. June (Mrs. R. 405). Eggers Fl. 307. Fruit edible, used for making preserves.

681. EUGENIA GLABRATA de C.
Shaded roadside at the gut, near Little La Grange. July (t). Eggers Fl. 298.

682. [Eugenia lateriflora Willd. Eggers Fl. 295.]

683. EUGENIA LIGUSTRINA Willd.
Margins of woodlands, in rocky soil. Signal Hill, Bassin. June (439). Lowry Hill. April (Mrs. R. 334b). Eggers Fl. 304. Berries shiny, black, sour.

684. EUGENIA MONTICOLA (Sw.) de C.
In open woods on Mt. Eagle, 900 feet, January (i); on Signal Hill, 800 feet, February (292); roadside near Rustup Twist, July (Mrs. R. 463). Eggers Fl. 293. Readily distinguished from the previous species by its smaller, dull black berries.

685. [Eugenia pallens de C. Eggers Fl. 299.]

686. **Eugenia Poiretii** de C.
Margin of a dry stream bed near Bassin. Sept. (Mrs. R. 2).

687. [Eugenia Portoricensis de C. Eggers Fl. 305.]

688. [Eugenia procera Poir. Eggers Fl. 302.]

689. [Eugenia pseudopsidium Jacq. Eggers Fl. 303.]

690. [Eugenia sessiliflora Vahl. Eggers Fl. 296.]

691. EUGENIA UNIFLORA L.
On a rocky ledge at the west end. June (427). Eggers Fl. 306.

692. EUGENIA VIRGULTOSA (Sw.) de C.
"Bastard Guava Berry." Roadsides east of Bassin. June (437). Lowry Hill and north side. April (Mrs. R. 334a, 342) Eggers Fl. 301.

693. JAMBOSA JAMBOS (L.) Millsp.
"Rose Plum." Cultivated at Canaan. March (Mrs. R. 273). Eggers Fl. 290. Fruit used for preserves.

694. [Jambosa Malaccensis de C. Eggers Fl. 289.]

695. [Myrica coriacea de C. Eggers Fl. 288.]

696. [Myrica coriacea Imrayana Gris. Eggers Fl. 288].

697. [Pimenta acris W. & A. Eggers Fl. 310.]

698. [Pimenta vulgaris W. & A. Eggers Fl. 309.]

699. PSIDIUM GUAJAVA L.
"Guava." Cultivated and occasionally escaped. Yard at Bassin. Nov. (74). Fields at Bassin, in fruit. Jan. (Mrs. R. 65). Eggers Fl. 311. Fruit a waxy yellowish green without, rose color within. Used for jelly and preserves.

COMBRETACEÆ.

700. BUCERAS BUCERAS (L.)
Bucida Linn. Stony situations. Salt River. May (396). Low grounds at east end. April (Mrs. R 346) Eggers Fl. 331. Wood hard and valuable; not so common as formerly.

701. BUCERAS CATAPPA (L.) Hitch.
"Almond." Cultivated and escaped. Bassin. Dec. (172), March (Mrs. R. 242). Near the coast at Golden Rock. March (Mrs. R. 218). Eggers Fl. 329. Pericarp acid, pulpy, red or white, edible.

702. [Conocarpus erectus L. Eggers Fl. 332.]

703. CONOCARPUS ERECTUS PROCUMBENS (L.) Jacq.
Low grounds on the margins of salt lagoons. Shoy's Lagoon. April (346). North side. May (Mrs. R. 355). Eggers Fl. 332.

704. LAGUNCULARIA racemosa Gærtn.
"White Mangrove." Common in lagoons and salt marshes. Lime Tree Bay. March (325). North side. May (Mrs. R. 370). Eggers Fl. 330.

705. QUISQUALIS INDICA L.
Cultivated at Bassin. April and May (398, Mrs. R. 337). Eggers Fl., p. 54. Flowers white, turning red with age.

MELASTOMATACEÆ.

706. [Clidemia spicata deC. Eggers Fl. 316.]

707. [Diplochita serrulata deC. Eggers Fl. 318.]

708. [Miconia angustifolia Gris. Eggers Fl. 324.]

709. [Miconia argyrophylla deC. Eggers Fl. 320.]

710. [Miconia impetiolaris Don. Eggers Fl. 321.]

711. MICONIA LÆVIGATA (L.) deC.
In moist, open places on rocky ledges. Crequis. April (357). Eggers Fl. 323.

712. MOURIRIA DOMINGENSIS (Aubl.) Poir.
A low, spreading tree growing almost in the water of a creek at Spring Garden. July, in fruit (477). Eggers Fl. 314. Rare; not seen in flower. Fruits orange, very much like a persimmon in appearance, size and taste.

713. TETRAZYGIA ELÆAGNOIDES deC.
Very abundant on a ledge in Crequis Valley. June (429). Eggers Fl. 319.

ONAGRACEÆ.

714. **Jussieua octovalvis** (Jacq.) Sw.
Œnothera Jacq., *J. angustifolia* Lam. Ditches near Golden Rock. Jan. (Mrs. R. 40).

715. JUSSIEUA SUFFRUTICOSA L.
At the stock range at Bassin. Jan. (239). Eggers Fl. 327.

UMBELLIFERÆ.

716. PEUCEDANUM GRAVEOLENS (L.) Bth.
Escaped from cultivation. South side. March (Mrs. R. 246). Eggers Fl. 374.

717. PIMPINELLA ANISUM L.
Escaped from cultivation at west end. March (Mrs. R. 245). Eggers Fl., p. 59.

MYRSINACEÆ.

718. [Ardisia coriacea Sw. Eggers Fl. 469.]

719. JACQUINIA ARMILLARIS Jacq.
Rocky places; infrequent. Rustup Twist. March (322). A form with unusually large leaves, 6—8×2—3.5 cm. Salt River bluffs. Feb. (Mrs. R. 149). Eggers Fl. 471.

PLUMBAGINACEÆ.

720. PLUMBAGO SCANDENS L.
"Blister leaf." Frequent in thickets along roadways. Bassin. Nov. (104). Big Princess. Feb. (Mrs. R. 163). Eggers Fl. 674. The bruised leaves are used as blisters.

SAPOTACEÆ.

721. ACHRAS SAPOTA L.
"Mespel." Cultivated and naturalized along roadways. Golden Rock. March (316). West end. Feb. (Mrs. R. 93). Eggers Fl. 477. The edible fruit, which is picked and ripened artificially, exhibits many varieties as regards shape and flavor; it is filled with acrid milk when young, which disappears as the fruit ripens.

722. BUMELIA CUNEATA Sw.
In marshy ground near the sea. Roadside at east end. April (383). Eggers Fl. 481. The fruit contains a viscous, milky latex.

723. CHRYSOPHYLLUM CAINITO L.
Infrequent; in forests; only a few trees noted. Crequis Valley. July (no num.). Eggers Fl. 472.

724. CHRYSOPHYLLUM GLABRUM Jacq.
Frequent. Bassin pastures. April (369), Feb. (Mrs. R. 180). Eggers Fl. 476. Fruit edible.

725. [Chrysophyllum microphyllum Jacq. Eggers Fl. 475.]

726. [Chrysophyllum olivæforme Sw. Eggers Fl. 474.]

727. [Dipholis salicifolia deC. Eggers Fl. 480.]

728. [Lucuma multiflora deC. Eggers Fl. 482.]

729. [Sideroxylon Mastichodendron Jacq. Eggers Fl. 479.]

OLEACEÆ.

730. [Forestiera Jacquinii Egg. Eggers Fl. 486.]

731. **Jasminum humile** L.
"Yellow Jessamine." Cultivated in the public garden at Bassin. June (Mrs. R. 419, 420).

732. JASMINUM OFFICINALE L.
"Jessamine." Cultivated as a wall and trellis flower. Yard at Bassin. Feb. (Mrs. R. 87), Aug. (no num.) Eggers Fl., p. 68.

733. JASMINUM PUBESCENS Willd.
Established in waste places and along fence rows. Bassin. Dec. (165), Jan. (Mrs. R. 32). Eggers Fl. 487.

734. **Jasminum quinqueflorum** Heyn.
Established near Canaan. June (Mrs. R. 404). Nocturnal.

735. [Mayepea Caribæa (Jacq.) Ktze. Eggers Fl. 485.]

LOGANIACEÆ.

736. SPIGELIA ANTHELMIA L.
Dry places at Bassin. April (ax). Anna's Hope. March (Mrs. R. 230). Eggers Fl. 388.

APOCYNACEÆ.

737. [Echites adglutinata Jacq. Eggers Fl. 497.]

738. [Echites barbata Desv. Eggers Fl. 501.]

739. [Echites neriandra Gris. Eggers Fl. 499.]

740. [Echites suberecta Jacq. Eggers Fl. 500.]

741. NERIUM OLEANDER L.
Cultivated and naturalized at Bassin. Jan. (217), March (Mrs. R. 234). Eggers Fl. 491.

742. PLUMERIA ALBA L.
On a rocky bluff at Salt River. May (395). Eggers Fl. 496.

743. PLUMERIA OBTUSIFOLIA L.
In a graveyard at Bassin. May (360), April (Mrs. R. 361). Eggers Fl. 495.

744. Plumeria rubra L.
Graveyard at Bassin. April (359, Mrs. R. 309). Eggers Fl. 494.

745. Rauwolfia Lamarckii A.deC.
Roadside near Mt. Washington. May (407). Eggers Fl. 490.

746. Rauwolfia nitida L.
Thickets along rocky roadways. Peter's Rest. April (362). Rustup Twist and north side. May to June (Mrs. R. 373, 428). Eggers Fl. 489.

747. Thevetia neriifolia Juss.
"Milk Bush." East end. Feb. (278). Crequis Valley. June (Mrs. R. 438). Eggers Fl. 488.

748. Vinca rosea L.
Cultivated at Bassin. March (Mrs. R. 449). Eggers Fl. 493.

ASCLEPIADACEÆ. (See Suppl.)

749. Asclepias Curassavica L.
"Wild Ipecac." Sandy and gravelly roadsides. Canaan. Feb. (255). Midland. March (Mrs. R. 207). Eggers Fl 504.

750. Calotropis procera (Willd.) Dryand.
In dry fields, plentiful locally. South side road. Jan. (219), April (Mrs. R. 295). Eggers Fl. 507.

751. [Fischeria crispiflora Schltr. Eggers Fl. 509]

752. Ibatia maritima Decne.
Common in dry rocky places on trees and fences. East end. Dec. (no num.). Eggers Fl. 508.

753. Metastelma Schlechtendalii Decne.
Common in rocky places, especially at the east end of the island. Dec. (170). North side. Feb. (Mrs. R. 146). Eggers Fl. 503.

CONVOLVULACEÆ.

754. [Convolvulus Jamaicensis Jacq. Eggers Fl. 538.]

755. Convolvulus nodiflorus Desv.
Rocky soil on Signal Hill. Bassin. Jan. (233). Eggers Fl. 539.

756. Cuscuta Americana L.
"Love Weed." Very abundant on roadside weeds. Bassin garden. Nov. (93), April (Mrs. R. 313a). Eggers Fl. 545.

757. [Evolvulus linifolius L. Eggers Fl. 542.]

758. EVOLVULUS MUCRONATUS Sw
Rocky and sandy roadsides. Corn Hill. June (203). East end. March (Mrs. R. 285). Eggers Fl. 543.

759. EVOLVULUS NUMMULARIUS L.
Pasture at Bassin. Jan. (246), Feb. (Mrs. R. 144). Eggers Fl. 544.

760. IPOMŒA BATATAS L.
Cultivated at Bassin. Feb. (Mrs. R. 80). Eggers Fl. 516.

761. IPOMŒA BATATAS LEUCORRHIZA Gris.
Cultivated at Bassin. Jan. (228). Eggers Fl. 516.

762. [Ipomœa Batatas porphyrorhiza. Eggers Fl. 516.]

763. [Ipomœa Bona-nox L. Eggers Fl. 510.]

764. [Ipomœa carnea Jacq. Eggers Fl. 519.]

765. IPOMŒA EUSTACHYANA Jacq.
Climbing over seaside bushes at Judith's Fancy. Nov. (39), Feb. (Mrs. R. 114). Eggers Fl. 521.

766. IPOMŒA FASTIGIATA Sweet.
Sandy field at Judith's Fancy. April (Mrs. R. 306). Eggers Fl. 517.

767. [Ipomœa filiformis Jacq. Eggers Fl. 528.]

768. IPOMŒA MOLLICOMA Miq.
In black soil of swamps and moist places. Catharine's Rest. Nov. (113). Midland. Jan. (Mrs. R. 28). Eggers Fl. 522.

769. IPOMŒA PENTAPHYLLA Jacq.
Common in fields at Bassin. Jan. (226, Mrs. R. 42). Eggers Fl. 514.

770. IPOMŒA PES-CAPRÆ (L.) Roth.
On the beach at Lime Tree Bay and Judith's Fancy. April (363, Mrs. R. 305.) Eggers Fl. 523.

771. [Ipomœa quinquepartita R.&S. Eggers Fl. 525.]

772. IPOMŒA SINUATA Orteg.
"Noyan Vine." Roadsides at Bassin, Petronella and Coakley Castle. Nov. (65). Lime Tree Bay. March (Mrs. R. 272). Eggers Fl. 513. The bruised leaves are used for dressing wounds.

773. IPOMŒA STEUDELII Millsp.
Rocky cleared lands; infrequent. Signal Hill, Bassin. April (367). Eggers Fl. 529.

774. IPOMŒA TRILOBA L.
Trailing over a sandy bank at Richmond Hill, Bassin. Feb. (269). Eggers Fl. 521.

775. [Ipomœa triquetra R.&S. Eggers Fl. 526].

776. [Ipomœa Tuba Don. Eggers Fl. 511.]

777. [Ipomœa tuberosa L. Eggers Fl. 512.]

778. IPOMŒA VIOLACEA L.
"Grannie Vine." Trailing over bushes in wet situations. East end road. Dec. (162). Eggers Fl. 518.

779. JACQUEMONTIA PENTANTHA (Jacq.) Don.
Very abundant. East end. Dec. (169). North side. April (Mrs. R. 341). Eggers Fl. 537.

780. [Jacquemontia tamnifolia Gris. Eggers Fl. 536.]

781. [Pharbitis acuminata (Vahl.) Chois. Eggers Fl. 534.]

782. **Pharbitis cathartica** (Poir.) Chois.
In a gut near the sea at Golden Rock. Dec. (103), March (Mrs. R. 220).

783. PHARBITIS NIL (L.) Chois.
In a cane field near Bassin, (no num.), and at Morning Star. Jan. (187, Mrs. R. 36). Eggers Fl. 532.

784. [Pharbitis purpurea (L.) Voigt. Eggers Fl. 533.]

785. **Porana paniculata** Roxb.
"Coralete." Cultivated at Bassin for covering brick walls. Jan. (89, Mrs. R. 35).

786. QUAMOCLIT COCCINEA (L.) Moen.
In a yard at Golden Rock. Dec. (144). Along roads at Big Princess, east of Bassin, and at Midland. Jan. (Mrs. R. 29). Eggers Fl. 531.

787. QUAMOCLIT QUAMOCLIT (L.) Britt.
"Cypress Vine." In an old truck garden at Bassin. Oct. (26). Eggers Fl. 530.

HYDROPHYLLACEÆ.

788. NAMA JAMAICENSIS L.
On a rocky ledge near Castle Coakley, and between the bricks of a walk at Bassin. Jan. (297, Mrs. R. 130). Eggers Fl. 546.

BORRAGINACEÆ.

789. CORDIA ALBA R.&S.
"White Manjack." Yard at Bassin. Jan. (227), March (Mrs. R. 258). Eggers Fl. 548.

790. CORDIA COLLOCOCCA L.
"Red Manjack." A common roadside tree. Golden Rock. April (348). Also at east end. Canaan. March (Mrs. R. 275a). Eggers Fl. 550. Fruit edible, abundant, bright red, viscous.

791. CORDIA CYLINDRISTACHYA R.&S.
A common shrub in various situations both dry and wet. King's Hill. March (314). Constitution Hill. Dec. (149). Pasture at Friedensthal. Jan. (Mrs. R. 77). Eggers Fl. 555.

792. [Cordia globosa Kth. Eggers Fl. 557.]

793. [Cordia Martinicensis R.&S. Eggers Fl. 556.]

794. CORDIA NITIDA Vahl.
Dry, rocky places in forests. Signal Hill. Feb. (265). Eggers Fl. 551.

795. **Cordia Ricksseckeri** sp. nov.
Leaves ovate-lanceolate, entire, blunt at the apex, scaly-pubescent upon the upper surface, smooth and shiny beneath. Calyx large, fleshy, smooth and shiny, orange, rupturing, unequally 5-crenate, densely stiff-haired within. Corolla orange, infundibuliform, large.

Leaves 6 to 9 in. long, 3 to 4 in. broad; petioles 1 to 1.5 in. long; calyx 5/8 by 3/8 in.; corolla 1.25 in. diameter. Prox C. Sebestina, from which, in habit, it is very distinct.

At the east end of the island in Cotton Valley. May 28, 1896 (409).

796. CORDIA SEBESTENA Jacq.
"Scarlet Cordia." Yard at Bassin. Oct. (29), Feb. (Mrs. R. 140). Eggers Fl. 549.

797. [Cordia sulcata deC. Eggers Fl. 553.]

798. CORDIA ULMIFOLIA Juss.
Fields at Midland. Dec. (156). Along gut at Bethlehem. Feb. (Mrs. R. 101). Eggers Fl. 554.

799. [Cordia ulmifolia lineata Egg. Eggers Fl. 554.]

800. EHRETIA BOURRERIA L.
Roads on the south side. June (435). Rustup Twist. May (Mrs. R. 367). Eggers Fl. 558.

801. HELIOTROPIUM CURASSAVICUM L.
Abundant in the black mud at the margin of the salt lagoon near Bassin. Nov. (58). Wet, marshy place along the coast. North side. Feb. (Mrs. R. 152). Eggers Fl. 569.

802. HELIOTROPIUM FRUTICOSUM L.
Dry, rocky roadsides. Corn Hill. Jan. (208). South side. Feb. (Mrs. R. 183). Eggers Fl. 570.

803. HELIOTROPIUM INDICUM L
Sandy ditches along roads. Contentment road, Bassin. Feb. (Mrs. R. 195). Petronella. Feb. (293). Eggers Fl. 567.

804. HELIOTROPIUM PARVIFLORUM L.
"Eye Bright." A very common weed on waste grounds. Yard at Bassin. Nov. (91), Feb. (Mrs. R. 120). Eggers Fl. 568.

805. HELIOTROPIUM PERUVIANUM L.
Cultivated at Bassin. April (no num.). Eggers Fl., p. 75.

806. [Rochefortia acanthophora Gris. Eggers Fl. 559.]

807. [Tournefortia fœtidissima L. Eggers Fl. 562.]

808. TOURNEFORTIA GNAPHALODES R.Br.
"Sea Lavender." In seaside sands at Judith's Fancy. Nov. (34), Feb. (Mrs. R. 109). Eggers Fl. 560.

809. TOURNEFORTIA HIRSUTISSIMA L.
"Chickery or Chiggery Grape." Roadside near The Sight at east end. May (405). Canaan. March (Mrs. R. 295b). Eggers Fl. 561.

810. [Tournefortia volubilis L. Eggers Fl. 565.]

811. TOURNEFORTIA VOLUBILIS MICROCARPA (Desv.) Gris.
Trailing over roadside banks. East end. April (382). Eggers Fl. 566.

VERBENACEÆ.

812. [Ægiphila Martinicensis Jacq. Eggers Fl. 665.]

813. AVICENNIA NITIDA Jacq.
Along lagoons, frequent. East end lagoon. Feb. (287). Lime Tree Bay lagoon. April (Mrs. R. 263). Eggers Fl. 670.

814. [Avicennia tomentosa Jacq. Eggers Fl. 671.]

815. BOUCHEA EHRENBERGII Cham.
East end. June (Mrs. R. 409). Eggers Fl 652.

816. [Callicarpa reticulata Sw. Eggers Fl. 664.]

817. [Citharexylum cinereum L. Eggers Fl. 661.]

818. CITHAREXYLUM QUADRANGULARE Jacq.
"Fiddle-wood." Dry slopes. Signal Hill. Dec. (182). Along a creek at Jealousy. June (424). Big Princess. Feb. (Mrs. R. 168). Eggers Fl. 660. Fruit black, shiny, edible, tasting like that of Prunus serotina.

819. CLERODENDRON ACULEATUM (L.) Gris.
Sandy soils at Corn Hill, Jan. (205); and Big Princess, Feb. (Mrs. R. 164). Eggers Fl. 666.

820. **Clerodendron siphonanthus** R.Br.
Deep, low woods near Grove Place. Aug. (498). Crequis. June (Mrs. R. 442*b*).

821. DURANTA REPENS L.
D. Plumieri Jacq. Stony roadsides near the sea. Bassin. Nov. (57). Richmond, Sept. South side, April, and north side (in fruit), June (Mrs. R. 11, 307, 423). Eggers Fl. 663.

822. HOLMSKIOLDIA SANGUINEA Rets.
"Chinese Caps." A common vine, in cultivation. Bassin. Feb. (Mrs. R. 155). Eggers Fl., p. 84.

823. **Lantana aculeata** L.
Shady, damp locality near the gut at Crequis. July (1).

824. LANTANA CAMARA L.
Very common in dry soils everywhere. Bassin. March (319). Richmond Hill. Feb. (Mrs. R. 172). Eggers Fl. 656.

825. LANTANA INVOLUCRATA L.
Common along a gut at Golden Rock. Dec. (145). South side. March (Mrs. R. 227). Eggers Fl. 658.

826. [Lantana polyacantha Schau. Eggers Fl. 657.]

827. [Lantana reticulata Pers. Eggers Fl. 659.]

828. LIPPIA NODIFLORA (L.) Michx.
In seashore sands at Judith's Fancy. Nov. (128). And Golden Rock. March (Mrs. R. 223). Eggers Fl. 250.

829. PETREA VOLUBILIS Jacq.
Cultivated at Bassin. April (Mrs. R. 329). Eggers Fl., p. 84.

830. [Petitia Domingensis Jacq. Eggers Fl. 668.]

831. PRIVA LAPPULACEA (L.) Pers.
In the yard at Bassin. Dec. (167), Feb. (Mrs. R. 131). Eggers Fl. 651.

832. VALERIANODES JAMAICENSIS (L.) Medic.
Stachytarpheta Vahl. A common weed in pastures. Bassin. Nov. (121), Feb. (Mrs. R 137). Eggers Fl. 653.

833. [Vitex divaricata Sw. Eggers Fl. 669.]

LABIATÆ.

834. COLEUS AMBOINICUS Lour.
"East India Thyme." In a dry, rocky place along a road at the east end; locally abundant. June (no num.), March (Mrs. R. 224). Eggers Fl. 638.

835. LEONOTIS NEPETÆFOLIA (L.) R.Br.
"Hollow stalk." The yard at Bassin. Oct. (22), Jan. (Mrs. R. 64). Eggers Fl. 649.

836. LEONURUS SIBIRICUS L.
Very common in waste grounds and cane fields. Yard at Bassin. Nov. (30), Jan. (Mrs. R. 39). Eggers Fl. 647.

837. LEUCAS MARTINICENSIS R.Br.
A common weed in waste places. Yard at Bassin. Jan. (236), July (Mrs. R. 444). Eggers Fl. 648.

838. MESOSPHÆRUM CAPITATUM (L.) Ktze.
Hyptis Jacq. "Wild Hops." Frequent in moist, shady situations. Crequis. April (358). Eggers Fl. 639.

839. MESOSPHÆRUM PECTINATUM (L.) Ktze.
Hyptis Jacq. "French Tea." A common weed in waste grounds. Yard at Bassin. Nov. (110). Eggers Fl. 641.

840. MESOSPHÆRUM SUAVEOLENS (L.) Ktze.
Hyptis Jacq. Common in dry pastures and the dry beds of streams. Yard at Bassin. Nov. (82). Eggers Fl. 640.

841. [Mentha aquatica L. Eggers Fl. 650.]

842. [Ocimum Basilicum L. Eggers Fl. 636.]

843. OCIMUM MICRANTHUM Willd.
A common weed of waste grounds. Yard and pasture at Bassin. Dec. (130), Feb. (Mrs. R. 134). Eggers Fl. 637.

844. [Salvia coccinea L. Eggers Fl. 646.]

845. SALVIA COCCINEA CILIATA (Bth.) Gris.
Loose, sandy soil of the garden at Bassin. Jan. (235). Eggers Fl. 646.

846. SALVIA OCCIDENTALIS Sw.
Dry, rocky soils along roads. Signal Hill. Dec. (180). Also near Castle Coakley. Yard at Bassin. Feb. (Mrs. R. 79). Eggers Fl. 643.

847. SALVIA SEROTINA L.
In gravelly grass land. Yard at Bassin. Dec. (173). South side near Corn Hill. March (Mrs. R. 229). Eggers Fl. 645.

SOLANACEÆ.

848. BRUNFELSIA AMERICANA Sw.
"Rain tree." Cultivated in the garden at Bassin. Jan. (Mrs. R. 41). Eggers Fl. 571.

849. BRUNFELSIA AMERICANA PUBESCENS Gris.
"Rain tree." Cultivated in the yard at Bassin. Nov. (111). Eggers Fl. 571.

850. CAPSICUM ANNUUM L.
Cultivated at Bassin. Jan. to Feb. (Mrs. R. 450, 67). Eggers Fl. 584.

851. [Capsicum baccatum L. Eggers Fl. 583.]

852. [Capsicum dulce Hort. Eggers Fl. 581.]

853. CAPSICUM FRUTESCENS L.
"Bird Pepper." Roadsides. Signal Hill. Jan. (232). Also seen near Salt River, Eggers Fl. 582.

854. [Cestrum diurnum L. Eggers Fl. 599.]

855. CESTRUM LAURIFOLIUM L'Her.
Forests at Mt. Eagle, 1100 ft. Jan. (263). Between Lebanon and Canaan. March (in fruit, Mrs. R. 281). Eggers Fl. 598.

856. CESTRUM NOCTURNUM L.
"Lady of the Night." Cultivated at Bassin. June (W). Eggers Fl. 600.

857. [Datura fastuosa L. Eggers Fl. 573.]

858. DATURA METEL L.
Common in cane fields and about sugar mills. Judith's Fancy. Jan. (237). Princess. March (Mrs. R. 280a). Eggers Fl. 572.

859. DATURA STRAMONIUM L.
Dry sandy roadsides; frequent. King's Hill. Feb. (no num.). Big Princess. March (Mrs. R. 280b). Eggers Fl. 575.

860. [Datura Tatula L. Eggers Fl. 574.]

861. [Lycopersicum cerasiforme Dun. Eggers Fl. 585.]

862. [Lycopersicum esculentum Mill. Eggers Fl. 586.]

863. NICOTIANA TABACUM L.
"Tobacco." Escaped here and there; a relic of former cultivation. Bassin. Jan. (Mrs. R. 49). Seen also at Little LaGrange. Eggers Fl. 576).

864. PHYSALIS ANGULATA L.
Low grounds and cane fields. Catharine's Rest. April (361). Midland. Jan. (Mrs. R. 27). Eggers Fl. 580.

865. [Physalis pubescens L. Eggers Fl. 578.]

866. [Solanum aculeatissimum Jacq. Eggers Fl. 595.]

867. [Solanum igneum L. Eggers Fl. 590.]

868. [Solanum mammosum L. Eggers Fl. 596.]

869. SOLANUM MELONGENA L.
Cultivated at Bassin (Mrs. R. no num.). Eggers Fl., p. 78.]

870. SOLANUM NIGRUM NODIFLORUM (Jacq.) A.Gr.
Sandy roadside at Annally. June (497). Bassin. March (Mrs. R. 251). Eggers Fl. 587.

871. SOLANUM RACEMOSUM L.
"Canker Berry." Common in waste grounds. Roadside at Petronella. Feb. (295). Bassin. Jan. (Mrs. R. 54). Eggers Fl. 589.

872. SOLANUM SEAFORTHIANUM Andr.
Cultivated at Bassin. June (Mrs. R. no num.). Eggers Fl., p. 78.

873. [Solanum verbascifolium L. Eggers Fl. 588.]

874. SOLANUM TORVUM Sw.
"Plate Bush." Common in waste grounds. Pasture at Bassin. Nov. (123), Jan. (Mrs R. 71). Eggers Fl. 593.

SCROPHULARIACEÆ.

875. CAPRARIA BIFLORA L.
"Goat Weed." Common in waste grounds. Yard at Bassin. Feb. (301, Mrs. R. 143). Eggers Fl. 602.

876. [Capraria biflora pilosa Egg. Eggers Fl. 602.]

877. MONNIERA DIANTHERA (Sw.) Millsp.
Herpestis chamædryoides Kth Abundant in seepage ditches. Lowry Hill. Feb. (252), March (Mrs. R. 283). Eggers Fl. 604.

878. MONNIERA MONNIERA (L.) Britt.
Herpestis Kth. In black muck; very local and abundant. Bassin and Rustup Twist. Aug. (495). Golden Rock. March (Mrs. R. 222). Eggers Fl. 605.

879. RUSSELIA JUNCEA Zucc.
Midland. Feb. (Mrs. R. 175). Eggers Fl., p. 79.

880. SCOPARIA DULCIS L.
In black mud of the lagoon at Bassin. Nov. (115). Contentment. March (Mrs. R. 205). Eggers Fl. 601.

881. [Vandellia diffusa L. Eggers Fl. 606.]

BIGNONIACEÆ.

882. BIGNONIA ÆQUINOCTIALIS L.
Apparently rare. Salt River. July (no num.), June (Mrs. R. 426). Eggers Fl. 613.

883. BIGNONIA UNGUIS L.
Frequent along roads. Morning Star Estate. May (394). Doily Hill. Feb. (Mrs. R. 324). Eggers. Fl. 614.

884. CRESCENTIA CUJETE L.
"Calabash." In fields, common. Bassin. Nov. (73), Jan. (Mrs. R. 70). Eggers Fl. 607. The fruit often attains the size of a man's head. They are gathered for utensils when they have reached the stage of growth at which the finger nail will not mark them, sawn in half, the soft pulp removed and the shells boiled. They are then scraped with a piece of shell or a knife until only a thin ligneous shell remains; this is dried and thus becomes ready for use. These shells sell in the market for from two to eight cents per pair.

885. [Crescentia cucurbitina L. Eggers Fl. 608.]

886. DISTICTIS LACTIFLORA (Vahl.) deC.
Roadsides at the east end of the island. Dec. (163). West end. Feb. (Mrs. R. 96). Eggers Fl. 615.

887. TECOMA CAPENSIS (Thunb.) Lindl.
Cultivated at Contentment. Feb. (Mrs. R. 193). Eggers Fl., p. 79.

888. TECOMA LEUCOXYLON (L.) deC.
"White Cedar." Common; yard at Bassin. Jan. (229), April (Mrs. R. 323a). Eggers Fl. 611.

889. TECOMA STANS Juss.
"Yellow Cedar." Open places, very common; forming when in bloom a striking feature of the landscape. Bassin. Nov. (81). Midland. Jan. (Mrs. R. 21). Eggers Fl. 612.

MARTYNIACEÆ.

890. MARTYNIA DIANDRA Glox.
In stony wastes and rich low soils. Yard at Bassin. July (487), Sept. (Mrs. R. 4). Eggers Fl. 635. Also noted near La Vallee.

ACANTHACEÆ. (See Suppl.)

891. ANTHACANTHUS SPINOSUS (L.) Nees.
On a rocky ledge near Peter's Rest. March (335). Eggers Fl. 630.

892. [Anthacanthus Jamaicensis Gris. Eggers Fl. 631.]

893. [Anthacanthus acicularis (Sw.) Nees. Eggers Fl. 632.]

894. BLECHUM BLECHUM (L.) Millsp.
"Penguin Balsam." A common weed of open places. Bassin. Feb. and March (311, Mrs. R. 135). Eggers Fl. 619.

895. DREJERELLA MIRABILIOIDES (Lam.) Lindau.
Mt. Eagle. Jan. (248.) Eggers Fl. 627.

896. [Crossandra infundibuliformis Nees. Eggers Fl. 628.]

897. DIAPEDIUM ASSURGENS (L.) Ktze.
In waste places. Bassin. Nov. (108), Jan. (Mrs. R. 74). Eggers Fl. 633.

898. JUSTICIA CARTHAGINENSIS Jacq.
Abundant in dry, open situations. Bassin. Nov. (no num.), Jan. (Mrs. R. 72). Eggers Fl. 624.

899. JUSTICIA PECTORALIS Jacq.
Dianthera Murr. "Sweet Mint." "Garden Balsam." Cultivated at Canaan. Jan. (249). At a squatter's home at Princess. Feb. (Mrs. R. 139). Eggers Fl. 622.

900. RUELLIA COCCINEA (L.) Vahl.
Caledonia. July (no num.). Eggers Fl. 618.

901. [Ruellia strepens L. Eggers Fl. 617.]

902. RUELLIA TUBEROSA L.
Pasture and yard at Bassin. Feb. (259), April (Mrs. R. 336), Eggers Fl. 616.

903. [Siphonoglossa sessilis (Jacq.) Œrst. Eggers Fl. 623.]

904. THUNBERGIA VOLUBILIS Pers.
Abundant in the northwestern portion of the island. Constitution Hill, Annally and Spring Garden. Yard at Bassin. Feb. (280). Midland. Feb. (Mrs. R. 178). Eggers Fl. 634.

905. THUNBERGIA FRAGRANS Roxb.
Copses frequent. Near Betsey's Jewell, Mt. Bijou. Feb. (254). In a pasture at Canaan. Feb. (Mrs. R. 179). Eggers Fl., p. 81.

906. [Odontonema nitidum (Jacq.) Ktze. Eggers Fl. 621.]

PLANTAGINACEÆ.

907. PLANTAGO MAJOR TROPICA Gris.
Along a road in sandy soil, near Midland. April (379). Canaan. March (Mrs. R. 278). Eggers Fl. 673. Petioles, scapes and leaves covered with short, appressed hairs.

RUBIACEÆ.

908. ANTIRRHŒA LUCIDA Bth.&H.
Stenostomum Gært. Contentment. April (Mrs. R. 333). Eggers Fl. 391.

909. [Borreria stricta Mey. Eggers Fl. 411.]

910. [Borreria verticillata Mey. Eggers Fl. 410.]

911. BORRERIA PARVIFLORA Mey.
Yard at Bassin. Jan. (192). Eggers Fl. 412.

912. [Catesbæa melanocarpa K.&U. Eggers Fl. 378.]

913. CHIOCOCCA RACEMOSA L.
Thickets. Crequis. July (492). North side. June (Mrs. R. 422). Eggers Fl. 395.

914. [Chione glabra deC. Eggers Fl. 392.]

915. COFFEA LIBERICA Hiern.
Coffee of excellent flavor is extensively grown at Spring Garden at an altitude of but 100–150 ft. Canaan. Jan. (no num.). Contentment. March (Mrs. R. 243). Eggers Fl. 397.

916. [Erithalis fruticosa L. Eggers Fl. 394.]

917. ERITHALIS FRUTICOSA ODORIFERA (Jacq.) Gris.
Lime Tree Bay. March and April (326, Mrs. R. 261). Eggers Fl. 394.

918. ERNODEA LITTORALIS Sw.
On the sands of the seashore at Lime Tree Bay. March and April (333, Mrs. R. 262). Eggers Fl. 406.

919. EXOSTEMMA CARIBÆA R.&S.
Stony hillsides at Cotton Grove. July (470). Eggers Fl. 383.

920. [Faramea odoratissima deC. Eggers Fl. 398.]

921. GUETTARDA PARVIFLORA Sw.
Thickets. King's Hill gut. June (444). Canaan. June (Mrs. R. 398). Eggers Fl. 390.

922 GUETTARDA SCABRA Lam.
In thickets at Canaan. June (Mrs. R. 402). Eggers Fl. 389.

923. HAMELIA LUTEA Rohr.
Thickets. Crequis Valley. June (420). Eggers Fl. 381.

924. HAMELIA PATENS Jacq.
Damp, shaded, rich thicket at Crequis. April to June (351, Mrs. R. 442a). Eggers Fl. 380.

925. IXORA STRICTA Roxb.
Cultivated at Bassin. April (Mrs. R. 328). Eggers Fl., p. 62.

926. MORINDA CITRIFOLIA L.
"Headache tree." "Pain-killer." Naturalized in the yard at Bassin. Dec. (176), Feb. (Mrs. R. 185). Eggers Fl. 404. The oblong fruit waxy-white, 3 to 8 by 2 to 4 in. in its diameters. Smells like Schweitzer cheese.

927. [Oldenlandia corymbosa L. Eggers Fl. 386.]

928. [Oldenlandia callitrichoides Gris. Eggers Fl. 387.]

929. PALICOUREA PAVETTA ROSEA Eggers.
Shady thickets along the gut at Crequis. June (423). Eggers Fl. 403.

930. [Portlandia grandiflora L. Eggers Fl. 384.]

931. PSYCHOTRIA BROWNEI Spr.
Rocky woodlands. Crequis. April (350). Also noted on Lebanon Hill. Eggers Fl. 401.

932. [Psychotria glabrata Sw. Eggers Fl. 399.]

933. PSYCHOTRIA HORIZONTALIS Sw.
Along a roadway at Bassin. Nov. (53). Margins of a dried-up gut at Bassin. May (Mrs R. 386). Eggers Fl. 402.

934. PSYCHOTRIA TENUIFOLIA Sw.
"Brittle Stem." Banks of a gut at Canaan. June (Mrs. R. 401). Eggers Fl. 400.

935. RANDIA ACULEATA L.
"Christmas Bush." Pasture at Bassin. April (Mrs. R. 326). East end road near Shoy's. Dec. (155). Eggers Fl. 379.

936. [Randia aculeata mitis Egg. Eggers Fl. 379.]

937. **Randia Mussænda** (Thunb.) deC.
Gardenia Thunb. Escaped near Rose Hill at Annally. July 475.

938. [Rondeletia pilosa Sw. Eggers Fl. 385.]

939. [Scolosanthus versicolor Vahl. Eggers Fl. 393.]

940. SPERMACOCE TENUIOR L.
Between bricks of a pavement at Bassin. Oct. (10), Jan. (Mrs. R. 52). Eggers Fl. 409.

941. [Spermacoce tenuior angustifolia Egg. Eggers Fl. 409.]

CAPRIFOLIACEÆ.

942. **Lonicera Japonica** Thunb.
Cultivated at Bassin. June (no num.).

CUCURBITACEÆ.

943. [Anguria trilobata L. Eggers Fl. 342.]

944. [Anguria glomerata Eggers. Eggers Fl. 343.]

945. **Cayaponia graciliflora** Gris.
Growing on a calabash tree in the pasture at Bassin. Jan. (Mrs. R. 73).

946. [Cephalandra Indica Naud. Eggers Fl. 339.]

947. CUCUMIS ANGURIA L.
"Wild Cucumber." Frequent in pastures and grass lands. Marion Hoy. July (469). Bassin. Jan. (Mrs. R. 48). Used in soups by the natives. Eggers Fl. 338.

948. **Cucurbita ficifolia** Bouché.
Escaped to waste lands near Basin, where, though it blooms profusely, it but seldom fruits. Jan. (no num.).

949. [Cucurbita Pepo L. Eggers Fl. 335.]

950. [Cucurbita Pepo Melopepo Egg. Eggers Fl. 335.]

951. LAGENARIA LAGENARIA (L.)
Cucurbita Linn. Sp. Pl. 1010. "Gobie." Near Mt. Bijou. March (Mrs. R. 256). Eggers Fl. 336.

952. [Lagenaria Lagenaria viscosa (Egg.). Eggers Fl. 336.]

953. [Luffa cylindrica Rœm. Eggers Fl. 334.]

954. [Melothria pervaga Gris. Eggers Fl. 337.]

955. Momordica Charantia L.
"Balsam Apple." Common. Near Peter's Rest. April (364). Bassin. Jan. (Mrs. R. 46). Eggers Fl. 333.

956. [Trianosperma graciliflora Gris. Eggers Fl. 340.]

CAMPANULACEÆ.

957. [Isotoma longiflora Presl. Eggers Fl. 468.]

GOODENIACEÆ.

958. [Scævola Plumieri L. Eggers Fl. 469.]

COMPOSITÆ.

959. **Acanthospermum humile** deC.
Frequent in dry localities. Pasture at Bassin. Oct. (20), March (Mrs. R. 203).

960. Ageratum conyzoides L.
Rich sandy soil, scarce and local. Annally, June (430); also noted at Big Fountain, Jealousy. March (Mrs. R. 250b). Eggers Fl. 419.

961. [Ambrosia artemisiæfolia Trinitensis Egg. Eggers Fl. 440.]

962. Baccharis dioica Vahl.
Abundant locally. Rocky coast on the north side. June (455). Rustup Twist. May (Mrs. R. 372). Eggers Fl. 431.

963. Bidens bipinnata L.
"Spanish Needles." Common in waste grounds. Yard at Bassin. Oct. (13), Feb. (Mrs. R. 129). Eggers Fl. 454.

964. Bidens leucantha (L.) Willd.
Abundant at Spring Garden. July (473). Not seen elsewhere. Eggers Fl. 453.

965. Borrichia arborescens (L.) deC.
Sea beach at Lime Tree Bay. April (Mrs. R. 266). Eggers Fl. 444.

966. **Borrichia argentea** de C.
Sea beach at Big Princess. Oct. (24).

967. Chaptalia nutans (L.) Hemsl.
Damp rich loam. Big Fountain. June (447). Eggers Fl. 465.

968. Cosmos caudatus Kth.
Roadsides and dry pastures, near St. John's Estate. Oct. (18). Near Midland. Feb. (Mrs. R. 89). Eggers Fl. 455.

969. DISTREPTUS SPICATUS (Juss.) Cass.
A common weed of open places. Yard at Bassin. Jan. (190), Feb. (Mrs. R. 123). Eggers Fl. 418.

970. ECLIPTA ALBA (L.) Hassk.
Occasionally seen in sandy ditches along roadways. Work and Rest. Dec. (148.) Contentment. March (Mrs. R. 204, 206). Eggers Fl. 443.

971. [Elephantopus mollis Kth. Eggers Fl. 417.]

972. EMILIA SONCHIFOLIA (L.) de C.
"Scarlet Paint Brush." Roadsides frequent. Constitution Hill and yard at Bassin, Dec. (150, 183); also near Big Princess, Jan., yard at Bassin, Feb., and Crequis, March (Mrs. R. 125, 247). Eggers Fl. 463. A form with white flowers noted near The Grange. Eggers Fl. 463.

973. [Emilia sagittata deC. Eggers Fl. 464.]

974. **Erechthites hieracifolia** (L.) Raf.
Plentiful in the fruit gardens at Spring Garden. July (474). Not seen elsewhere.

975. [Erechthites hieracifolia cacalioides Less. Eggers Fl. 462.]

976. ERIGERON SPATHULATUS Vahl.
Roadsides. St. John's Estate. April (366). Jealousy. March (Mrs. R. 250a). Eggers Fl. 429.

977. [Erigeron atriplicifolium Vahl. Eggers Fl. 423.]

978. [Erigeron Ayapana Vent. Eggers Fl. 425.]

979. **Eupatorium fœniculaceum** Willd.
Yard at Bassin. Feb. (Mrs. R. 171). Cultivated.

980. [Eupatorium macrophyllum L. Eggers Fl. 420.]

981. EUPATORIUM ODORATUM L.
"Christmas Bush." Common in dry pastures and rocky roadsides. Bassin. Nov. (125). Eggers Fl. 421. Used as a decoration at Yuletide.

982. [Eupatorium repandum Willd. Eggers Fl. 422.]

983. EUPATORIUM SINUATUM Lam.
Rocky soil near the coast at New Fort. Oct. (23).

984. LACTUCA INTYBACEA Jacq.
Roadsides near Anna's Hope, Jan. (231), and Constitution Hill. Eggers Fl. 466.

985. LEPTILON CANADENSE (L.) Britt.
Roadside near St. John. July (484). Midland. May (Mrs. R. 358). Eggers Fl. 430.

986. MELAMPODIUM PALUDOSUM H.B.K.
In a wet ditch at Mt. Pleasant. Aug. (s). Contentment. July. (Mrs. R. 445). Eggers Fl. 435.

987. UCACOUA NODIFLORA (L.) Hitch.
Synedrella Gærtn. "Fatten barrow." Waste places. Bassin. Nov. (31). At Midland. March (Mrs. R. 208). Eggers Fl. 457.

988. PARTHENIUM HYSTEROPHORUS L.
Abundant in neglected yards and along dry roadways. Yard at Bassin. Oct. (6), April (Mrs. R. 291). Eggers Fl. 439.

989. PECTIS HUMIFUSA Sw.
Abundant locally on the rocky sea-beach, in rock pockets of hard packed sand. Judith's Fancy. Nov. (35), Feb. (Mrs. R. 117). Eggers Fl. 460.

990. PECTIS PUNCTATA Jacq.
Common in dry, wooded pastures. Bassin. Oct. (12), April (Mrs. R. 313b). Eggers Fl. 458.

991. **Pluchea camphorata** (L.) deC.
In a wet ditch at the Blackwood's Estate. April (376).

992. PLUCHEA ODORATA (L.) Cass.
"Sweet scent." In a rich field near Catharine's Rest. Feb. (276). Eggers Fl. 432.

993. [Pluchea purpurascens deC. Eggers Fl. 433.]

994. PTEROCAULON VIRGATUM (L.) deC.
Roadside at east end. April (380). Also near a lagoon at the same place. Feb. (Mrs. R. 106). Eggers Fl. 434.

995. SONCHUS OLERACEUS L.
Roadsides and ditches. Bassin. Dec. (151), Feb. (Mrs. R. 156). Eggers Fl. 467. Used to make a salad called "calalu."

996. [Sparganophorus Vaillantii Gærtn. Eggers Fl. 413.]

997. [Verbesina alata L. Eggers Fl. 456.]

998. VERNONIA ARBORESCENS (L.) Sw.
Roadsides on the north side. Feb. (Mrs. R. 150). At Marienhoi. Jan. (220). Eggers Fl. 414.

999. [Vernonia arborescens Swartziana Egg. Eggers Fl. 414.]

1000. [Vernonia arborescens Lessingiana Egg. Eggers Fl. 414.]

1001. [Vernonia arborescens divaricata Sw. Eggers Fl. 414.]

1002. [Willughbæa gonoclada (de C.).
Mikania de C. Eggers Fl. 427.]

1003. **Willughbæa cordifolia** (L.) Ktze.
Climbing in roadside thickets. Mt. Eagle. Jan. (281).

1004. [Wedelia buphthalmoides Gris. Eggers Fl. 446.]

1005. [Wedelia buphthalmoides Antiguensis Nich. Eggers Fl. 446.]

1006. WEDELIA BUPHTHALMOIDES DOMINICENSIS Gris.
"Wild Tobacco." Common in rich, wet soils: apparently local. Midland. Dec. (157), Feb. (Mrs. R. 90). Eggers Fl. 446.

1007. WEDELIA TRILOBATA (L.) Hitch.
W. carnosa Pers. In wet, swampy soil near the west end. June (412). On the north side. June (Mrs. R. 425). Eggers Fl. 445.

1008. [Wedelia cruciana Rich. Eggers Fl. 449.]

1009. [Xanthium macrocarpum de C. Eggers Fl. 438.]

1010. **Xanthium Strumarium** L.
Roadside sands at Judith's Fancy. Feb. (266).

1011. [Zinnia elegans Jacq. Eggers Fl. 442.]

SUPPLEMENT.

ACANTHACEÆ.

1012. [Eranthemum nervosum R.Br.
St. Croix—Benzon: ex Lindau in Urb. Symb., 2:199.]

1013. [Graptophyllum pictum Griff.
St. Croix—Eggers in Fl. St. Croix 137: ex Lindau in Urb. Symb., 2:213.]

899. JUSTICIA PECTORALIS Jacq.
St. Croix—Isert, Benzon, West (n.v.): ex Lindau in Urb. Symb., 2:242.

1014. [Justicia periplocæfolia Jacq. Eggers Fl. 625.]

1015. [Justicia secunda Vahl.
In fructicetis in St. Croix, coll. ignot.: ex Lindau in Urb. Symb., 2:238.]

1016. [Pachystachys coccinea Nees.
St. Croix—Rohr, Oersted: ex Lindau in Urb. Symb., 2:213.]

1017. [Thunbergia alata Boj.
St. Croix—Eggers in Fl. St. Croix, 137.]

ASCLEPIADACEÆ.

1018. [Marsdenia floribunda Schltr.
In St. Croix—Eggers no. 439. *Stephanotis floribunda* Ad. Brong. Eggers Fl., p. 70.]

CYPERACEÆ.

149. CYPERUS FLAVUS (Vahl) Nees.
In his Fl. St. Croix and Virgin Is., page 108, Baron Eggers credits Buck Island (under this species) to St. Thomas—it is off the north shores of St. Croix—his 913 should therefore be included. Also collected in St. Croix by Hornemann, no. 97.

1019. [Cyperus tenuis Sw.
St. Croix—Eggers: ex Clarke in Urb. Symb., 2:48.]

1020. [Scirpus articulatus Gris.
St. Croix—Hb. Vahl.: ex Kunth Enum., 2:198 part. Ex Clarke in Urb. Symb., 2:94?

PIPERACEÆ.

1021. [Peperomia alata R.&P.
St. Croix—Richard, in hb. Franquer: ex C. de Candolle in Urb. Symb., 3:241.]

1022. [Peperomia Guadeloupensis C.deC.
St. Croix at Springarden—West in hb. de C.: ex C. de Candolle in Urb. Symb., 3:239.]

1023. [Peperomia Langsdorffii Miq.
St. Croix—Eggers, West in hb. Haun. ex Dahlst., hb. Hornemann in hb. v. Heurck: ex C. de Candolle in Urb. Symb., 3:267.]

1024. [Peperomia myrtifolia A.Dietr.
St. Croix—Pflug in hb. Vahl. musei Haun.: ex C. de Candolle in Urb. Symb., 3:237.]

1025. [Piper Amalago L.
St. Croix—West in hb. de Candolle: ex C. de Candolle in Urb. Symb., 3:167.]

1026. [Piper incurvum Sieb.?
St. Croix ex West: ex C. de Candolle in Urb. Symb., 3:201.]

POLYGONACEÆ.

1027. [Coccoloba Klotzschiana Meissn.
St. Croix—Specimen in hb. Petrop.: ex Lindau in Urb. Symb., 1:223.]

LEGUMINOSÆ.

1028. [Galactia striata tomentosa (Bert.) Urb.
Galactia filiformis Egg.! St. Croix (1876), p. 112 et (pp.) St. Croix et Virg. Isl., p. 44. St. Croix—Mus. Berol.: Urban in Urb. Symb., 2:321.]

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